BURMA GAZETTEER

BHAMO DISTRICT

VOLUME A

BURMA GAZETTEER

THE

BHAMO DISTRICT

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TABLE OF CONTENTS.

CHAPTER I.

PHYSICAL DESCRIPTION.

CHAPTER II.

HISTORY AND ARCHÆOLOGY.

CHAPTER III.

THE PEOPLE.

CHAPTER IV.

AGRICULTURE AND IRRIGATION.

CHAPTER V.

FOREST AND MINERALS.

CHAPTER VI.

OCCUPATIONS AND TRADE.

CHAPTER VII.

MEANS OF COMMUNICATION.

CHAPTER VIII.

CHAPTER IX.

ADMINISTRATION, GENERAL AND JUDICIAL, PUBLIC WORKS, ETC.

CHAPTER X.

REVENUE ADMINISTRATION.

CHAPTER XI.

LOCAL SELF-GOVERNMENT.

CHAPTER XII.

EDUCATION.

CHAPTER XIII.

Public Health.

CHAPTER XIV.

Minor Articles.

THE

BHAMO DISTRICT.

CHAPTER I.

PHYSICAL DESCRIPTION.

The Bhamo district comprises an area of 4,146 square miles, situated between 23°37′ and 24° 52′ North, and 96°34′ and 97°46′ East. Until the year 1895, the present Bhamo and Myitkyina districts formed a single charge, with its headquarters at Bhamo. When the separation took place the Bhamo district comprised two subdivisions (Bhamo and Shwegu) and four townships—Bhamo, Sinkin, Kaungtôn and Shwegu. The Sinkin township was absorbed in the Bhamo township in 1896 and the Kaungtôn township in that of Shwegu in the following year. Boundaries

Since that time the district has consisted of two subdivisions, with two conterminous townships of the same name.

The Bhamo district is bounded on the north by Myitkyina, on the east by China, on the south by the Shan State of Möngmit and on the west by Katha.

North.—Starting from the Burma-China boundary at the junction of the Laisa and Molè streams, the boundary follows the Molè stream to its junction with the Hkauna stream, and thence the latter stream to its source in the Hkringu *hkyet* (or saddle). Thence the Hkringu stream to its junction with the Namsang river, which is followed as far as its junction with the Nampa or T'sein-Tsaw stream. Thence that stream to its junction with the Wora stream and the latter to its source. From this point the boundary rounds the crest at the source of the Nanhè stream to the source of the Ningrut stream; down this stream to its junction with the Inlein, and the Inlein stream to its outfall in the Irrawaddy. The boundary follows the main river to the mouth of the Namsawk stream (on the right bank) and ascends this stream to its source in Hkahkyeng *hkyet* and then descends the Namset or Mosit stream to its junction with the

Jahtung stream, which it ascends as far as the "*Numshang*" or "*nat*" shrine to the north of Jahtung village. From this point the boundary is defined by a number of small and unimportant hill streams as far as the Namko stream, which it follows to its outfall in the Kaukkwè river, which constitutes the district boundary with Katha on the west.

East.—The northern portion of the international boundary between this district and China was demarcated by a joint Commission in the year 1897-98, and agreed with the boundary described in article I of the Agreement of 1897.

The southern portion of the boundary occupied the Commissioners for two seasons. The border, as finally agreed to, runs as follows:—

From the junction of the Molè and Laisa streams up the former to the outfall of the Cheyang *hka*. Thence up the Cheyang *hka* to its source and across the narrow neck, Cheyang *hkyet* (or Ma-po Ssu), a few hundred feet to the source of the Nampoung, which is followed to its mouth. From the junction of the Nampoung *hka* and the Taping river the frontier ascends the Taping to the ridge at the mouth of the Kuli *hka* and follows this ridge to the westernmost of the knolls known as Janmai Pum; thence follows the watershed between the Taping and Namwan rivers to Panteng-Shan; thence descends the Kindit *hka* to its junction with the Namwa *hka*, which stream is followed to the edge of the Long-Ch'uan plain; thence a (demarcated) line following the base of the foothills to the Mantêng *hka*, which stream is followed to its junction with the Namwan; thence the Namwan to its junction with the Shweli.

gle. The Namwan Assigned Tract, or "Triangle," is by the Agreement of 1897 recognized as belonging to China. The administration and control of this tract is, however, entirely conducted by the British Government, who hold it on a perpetual lease from China. The boundaries of this tract, administered as part of the Bhamo district, are the Namwan, Nam Mak and Shweli rivers. The rent thereof, paid yearly by His Britannic Majesty's Consul at Têngyüeh to the Chinese authorities, is Rs. 1,000.

South.—From the Nam Mak *chaung* the district marches with the Shan State of Môngmit, as follows:—From the elbow of the Nam Mak *chaung* up the Sinma *chaung* to its source at the foot of Loichow; thence along the high Loichow ridge westwards as far as Saga (Saga being left in the Bhamo district); thence along the ridge

Tatmanan ; thence down the Kaya stream, which rises just below this village, to opposite Si-u : thence along the Si-u-Sipein road to where the Mohlaing stream crosses the road ; thence a straight line drawn to the peak marked △2949 on the South-East Frontier Survey Map, 1888-90, east of Letkat ; thence along the ridge to the north-east, until the ridge bends to the north-west, a little to the south of the peak marked △ 4139 on the above map ; thence along the ridge running to the north-west which forms the watershed between the streams running north into the Irrawaddy and those running west into the Shweli up to the source of the Setkala *chaung* at the foot of this ridge ; thence along the Setkala *chaung*, which falls into the Irrawaddy river.

West.—The boundary with Katha is formed by the Kaukkwe river from its junction with the Namko stream to its mouth on the Irrawaddy river.

Physical aspects.

The district may be described as consisting of the great plain of the Irrawaddy, the valleys of the lesser streams which form its tributaries on either bank, and the hill systems on either side of the main river. The Irrawaddy river runs a course of 100 miles in the district from the village of Lèma, half-way down the third defile, to the mouths of the Setkala and Kaukkwè streams. Except where the river narrows into the two defiles the plain has an average breadth of 25 miles.

On the east the ground slopes gently up to the confused barrier of hills which stretches to the Chinese frontier, unbroken except by the valleys of the great river's eastern tributaries. Some of the hills reach an altitude of seven or eight thousand feet, and the journey onwards into South-Western China is marked by a continuation of this hill system, for the populous valleys of the Chinese-Shan States lie at a high elevation, and the Salween and the Mekong cut their way through deep gorges in the mountains.

The hills on the west of the river are less impressive. They are off-shoots of the main system in Myitkyina and do not attain a greater altitude than 4,000 feet. They are drained by the Mosit and Kaukkwè streams and are for the most part but thinly populated. Thick tree jungle covers the greater part of the plains, cultivation being confined to the banks of the streams. The forest-covered plain is much intersected with *nullahs*, and the broken nature of the ground becomes more pronounced as the foot-hills are approached. The slopes of the hills themselves are everywhere scarred by the clearings

(*taungyas*) burned by the Kachins for paddy cultivation, and these hills, which were probably at one time under thick forest, have been seriously denuded. Along the streams which feed the Irrawaddy on either side, rice cultivation supports a scanty population. The valley of the Taping, though broad and once populous, has suffered severely at the hands of the Kachins and even more severely from the vagaries of the stream, which is heavily charged with sand. In the southern portion of the district the Paungnet *chaung* is dammed every year and irrigates an extensive plain. The remaining streams are little used for irrigation and are liable to destructive floods.

Rivers: The Irrawaddy.

The Irrawaddy forms the backbone of the district, which it enters at the third defile, the greater part of which lies within the Bhamo district. Except during the rains, the third or upper defile is not so impressive as the second. It is strewn thickly with rocks which, in the rains, break up the water into dangerous whirlpools and rapids which render the passage unnavigable. In the dry weather a few fishing villages, nestling under the hills, and one or two country boats hugging the bank, are the only signs of human habitation, though of a hot-weather evening the fires started by Kachin cultivators add much to the natural beauty of the scene. A stupendous wall of rock on the north side, nearly 400 feet in height, lends grandeur to the second defile. The hillsides are precipitous and thickly wooded, and the strength of the current is masked under a curiously placid surface. A number of bays, with walls of polished rock and perfectly still water indent the southern bank, and a beautiful Golden Pagoda, marking the spot where Prince Wilatha was miraculously saved, crowns an outstanding rock on the opposite side. The defile is said to be "bottomless," and there is only one place in midstream where an anchor will find a holding place. Between and below the defiles the river spreads out into a majestic stream, studded with islands large and small, the most important of which are at the mouths of the Molè and Taping, above Bhamo and opposite Shwegu. It is $1\frac{1}{2}$ miles wide in the rains at Bhamo, yet it has been known to rise 6 feet in 24 hours. It stimulates the imagination to estimate what this rise means in the narrowest part of the upper defile, where the river is only 50 yards wide. The highest known level reached by the river at Bhamo was 41 feet on the 3rd September 1890. It is now (July 1908) 28 feet. The majority of the villages on the banks of the main river support themselves by fishing and timber trading, as their paddy fields are very

liable to floods. On the islands, however, tobacco and vegetables are grown with some success.

The Taping.

Though the Taping river waters fertile valleys in the Shan-Chinese States of Mongla and Santa it enters British territory as a foaming torrent. A short distance before it emerges from the hills it receives the waters of the Nantabet, a clear rocky stream which descends from the hills in a series of magnificent cataracts. At Myothit the Taping widens out into a navigable stream, but throughout its course in the plains it is an extremely uncertain river, and the villagers on either bank never know from year to year when their fields and homesteads may be eroded. Owing to the fact that in its transfrontier course it flows between high banks of loose sandstone, the stream is never clear, and this formation of its banks was responsible some years ago for a disaster which wiped out many villages for a generation. A landslip blocked the stream for some time and the pent-up waters burst their way through in a flood which covered whole villages under ten feet of sand and transformed the flourishing valley into a waste of *kaing* grass. Country boats trade to Myothit from Bhamo (32 miles) throughout the year, but the channel is too uncertain for steamers, though light draught launches have reached this place in the rains. The Chinese name of the Taping is the Ta-hô (big stream).

The Molè.

The Molè (or Rainbow) river rises in China and for a short distance forms the international boundary. It debouches on the plains at Nalôn, above which place it abounds in deep pools and rapids, affording excellent *mahseer* fishing. From Nalôn it runs an exceedingly tortuous course of 117 miles through the wilderness of jungle which lies between the hills of the third defile and those of the Chinese border and falls into the Irrawaddy near Ngetpyawdaw, a few miles above the mouth of the Taping. The watershed between the two streams is very indefinite. A great deal of the intervening country is culturable and it is being rapidly taken up by Shan-Chinese immigrants from the States of Santa and Hosa-Lasa. The Molè is navigable for large country boats as far as Nalôn, but is too tortuous and narrow for steamer traffic, and in the rains even the boat journey up-stream is very laborious.

Minor streams.

South of Bhamo on the left bank the Irrawaddy receives three unimportant streams, the Namsiri, Theinlin and Moyu. These drain the eastern Kachin Hills and support, in the plains, a few villages of Shan-Burmese cultivators. The Namsiri, which falls into the main

stream just south of Bhamo, floods the lower part of the town when the Irrawaddy rises and transforms, in a night, the polo-ground into a fishery. The Sinkan *chaung* rises in the Momeik State and, running in a north-westerly direction, drains a considerable plain before entering the Irrawaddy just above the second defile. The valley is not unfertile, and at one time contained several prosperous villages. It was, however, at the mercy of the Kachins on either side and suffered severely during the dynastic troubles of Momeik, of which State it once formed a part. The river is navigable for small boats as far as Kanni, above Sikaw, in the rains, and both cultivation and trade are improving under British administration. But its chief use is as a highway for the extraction of timber from the forests which border its upper waters.

South of the second defile the Ngabat *chaung* is also mainly used for floating purposes, but the Paungnet, which reaches the Irrawaddy just above Shwegu, confers fertility on an extensive plain south of that town. A scheme for the better utilisation of its water is at present (1908) under consideration. The Setkala, which separates Bhamo from the Momeik State, is mainly utilised for floating timber. Its eastern bank is for some distance occupied by forest reserves, and villages are few and far between.

On the right bank of the Irrawaddy the only tributaries of importance are the Kaukkwè and Mosit streams.

The Kaukkwè, which forms the district boundary with Katha, rises in the Myitkyina district north of Sinbo and, as its name implies, resembles the Jordan, "the crookedest river what is." In one place the traveller, after paddling all day, ties up at night at a distance of a mile or two (by land) from his last camp. Its tortuous course is ascribed by tradition to the wanderings of a blind alligator (embodying, of course, a *nat* or spirit) in its attempts to follow its guide, a crow, towards a drinking place. The water thereafter followed the alligator's track.

The stream is navigable for boats in the rainy season as far as Migè, but the country is then extremely unhealthy and the overhanging vegetation makes progress very difficult for large boats. The river is largely used for timber-floating purposes. So, also, is the Mosit, which rises in the hills to the west of the third defile and runs in a south-westerly direction to the village of the same name on the Irrawaddy, opposite the island of Kyundaw just above Shwegu.

Mountains.

The hills on the east may be said to form the ragged edge of the great plateau which extends far into Yünnan.

The various ridges which form this tumbled sea of mountains have occasionally local names, and one or two of the higher hills are known to all Kachins. Such are Alawpum and Narupum ('*pum*' meaning "mountain") which rise to an altitude of 5,783 and 7,868 feet respectively. The lesser ridges are generally known by the name of some considerable village situated on them, *e.g.*, the Tangtè hills, which terminate in the eastern barrier of the second defile, the Pônkan hills and the Pumpien ridge. the innumerable hill streams which feed the Molè, the Taping, the Nantabet, the Namsiri and other tributaries of the Irrawaddy are known by various names, and it is often very difficult to trace the main divide. Viewed from Alawpum or from the frontier post of Warrabum the hills seem to be piled up in inextricable confusion, and this apparent want of system seems to have struck the earliest travellers. The view from some of the higher mountain tops is magnificent, particularly in the early morning when the heavy mist in the valleys begins to shred away under the heat of the sun. West of the river the hills are much less imposing. The system originates near Mogaung in Myitkyina. The main eastern ridge throws out the hills which form the third defile and then runs southwards to divide the Kaukkwè from the Mosit. The western ridge divides the Kaukkwè from the Namyin river and continues into the Katha district.

Elevation of the district.

Bhamo, 1,000 miles from the mouth of the Irrawaddy, is only 361 feet above sea-level. Its name in the Shan language signifies the "pot village," and this has been held to indicate either the occupation of its former inhabitants or its geographical situation, surrounded by a rim of hills in every direction except where the mountains are pierced by the Irrawaddy. The significance of this derivation is clearly impressed on anybody who has lived in Bhamo in the rainy season, when the clouds seem to be unable to clear the surrounding barrier and the air is close and still. The ascent to the hills is often very abrupt, and the descent to the Namwan and Shweli valleys on the east, which lie at an average elevation of some 3,000 feet, equally steep, but well graded roads have been constructed without difficulty through the hills to these Shan valleys.

Soils.

Those parts of the plains which were once covered or are still inundated by the Irrawaddy river and its tributaries present few variations. The low-lying land is alluvial, the islands on which the most valuable crops are grown being naturally the richest. The higher-lying land consists mainly of a reddish sandy soil resting on a thick bed of yellow or

grey clay. There has been no expert examination of the geological formation of the hills.

Anderson* describes the eastern hills as largely composed of metamorphic and crystalline rocks. A dark bluish grey fine-grained gneiss with white layers of felspar forms a great part of the range. The varieties of structure are very numerous, beds of the very finest grain alternating with others resembling porphyry, while others are schistose, felspathic and granitoid forms of gneiss.† The existence of granite is shewn by the composition of some of the large boulders in the streams.

Climate: Rainfall

The rainfall at Bhamo is moderately constant, the average being slightly over 70 inches. The heaviest recorded fall was 96 inches in 1894, and it has several times dropped below 60. At Shwegu, where statistics have only been recorded since 1894, the average is 62 inches, with a highest fall of 70 inches. No record is kept of the rainfall in the hills, but at Sinlumkaba, 26 miles by road from Bhamo, it exceeds 150 inches, taking the form of a continuous driving sleet. There have been few years with more than one rainless month. There is frequently a fairly heavy fall at Christmas. Anderson‡ mentions heavy thunder showers in March (1868), and these continue through March and April, while May is generally characterised by moderately heavy rain, as much as 17½ inches falling in 1894. The monsoon proper sets in in June and the heaviest rainfall of the district takes place in the two following months. From September the monsoon current begins to fall, but fishermen expect a final rise of the river in October, and successful rice cultivation is dependent on light showers in the autumn. A fall of an inch and a half is not uncommon in November and, as observed above, showers are usually enjoyed in the cold-weather months.

Hailstorms frequently occur during the hot weather in the hills. They are generally preceded by a thunderstorm and are succeeded by heavy rain. Anderson§ experienced one such storm on the 12th April 1868, the hailstones being described as convex on one side and flat on the other and about the size of a shilling. The approach and break of one of these hot-weather storms is very impressive, especially if the clouds are confined, as they frequently are, within the narrow gorges of the hill streams. In the first stages, the wind is of enormous power and the traveller caught on the

* Anderson, page 64.
† *Ibid.*, page 68.
‡ Anderson, page 253.
§ *Ibid.*, page 274.

exposed face of the hill runs considerable risk from falling trees.

Regular observations of the temperature were not undertaken till 1888. Speaking generally, December, January and February are characterised by still pleasant days and cold nights. A raw heavy fog lies over the low-lying country until the sun has attained sufficient strength to dissipate it. Observations in 1868* gave a mean maximum temperature of 80° in February, and the mean by the dry bulb thermometer at 7 A.M. was 55°. In March, April and May the temperature rises considerably, but occasional storms prevent the weather from being oppressive. The thermometer rose to 106° in 1890, but this is very unusual, and the average maximum temperature is 87°. The arrival of the monsoon again lowers the temperature, but the atmosphere is very close and steamy during the breaks, and these conditions are accentuated in September and October, when the monsoon is failing and the cold-weather north-easterly winds have not commenced. By November the wind begins to veer round, the nights become cooler, and the floods gradually become absorbed, leaving the air drier and more bracing. Temperature.

The lowest temperature recorded in Bhamo was 38° in 1891, but the average minimum is 60°. Hoar frost is common during the cold weather, and ice is frequently found in exposed spots in the hills.

The district is seldom really dry. The hot weather is often relieved with showers and there is a heavy dew at night. In the rains a large portion of the plains is flooded, and in the autumn months the district is probably one of the dampest in the province. Humidity

At the close of the south-west monsoon the wind generally veers round to the north-east and north-west, but until the spring storms appear there is very little breeze at all. Northerly winds prevail as late as May, and the early thunderstorms often appear to work up from this direction, though owing to the conformation of the surrounding hills it is possible that their apparent direction is deceptive. In September such wind as there is varies between south-west and north-west, and October probably marks the transition from the one monsoon to the other. Winds.

Anderson† surmises that the hill ranges on this side of the Yünnan plateau were at one time islands when the eocene and miocene strata were deposited round them. Geology.

* Anderson, page 64. | † Anderson, page 59.

Fauna.

The open grass *lwins*, park-like stretches of high grass lying amongst thick forests, afford admirable pasture for herds of bison (Bos gaurus) and *saing* (Bos sondaicus), especially after the hot-weather fires, when the early rains bring on the young grass. Specimens of the *mithun* are said to have been shot, and elephants are numerous, both in herds and solitary; along the less frequented roads traces of their depredations are to be found in broken telegraph poles and uprooted boundary pillars and mile-posts. The Kheddah Department made two considerable catches in the season 1907-08.

Rhinoceros have not been met in the district. Tigers are plentiful and are frequently trapped and shot in the hills. In the villages in the plains, where cattle are more numerous, individual animals occasionally do a great deal of damage, especially in the rains. Leopards are even more common and are equally destructive. Eighty-four cattle were killed by tigers and leopards in the year 1907. Sambhur (Rusa Aristotelis) are numerous in the foot-hills, especially in the neighbourhood of cultivation. The heads are ordinarily small. *Thamin* (Panolia Eldi) are rare, but until recently were found in some numbers on the eastern side of the hills, towards the Namwan valley. Barking-deer are found everywhere, and the hog-deer is common, especially in the Upper Sinkan and Molè valleys.

Bears, both the large and the small variety, are very common in the hills, whence their skins are brought in in large numbers. The wild goat or *serow* (Capricornis Sumatrensis) is found on the higher hills, but the *gurul* is unknown.

The jackal is not found, but wild dogs are plentiful and do a great deal of damage among both domestic cattle and wild game. Several varieties of monkeys abound in the foot-hills, including the gibbon, and a mysterious creature called by the Burmans "*luwun*," which walks upright and is covered with a coarse tawny hair, is possibly one of the larger species of ape. It is reported to have been met on the Tangtè hills. Of the smaller mammals, the wild cat and the toddy cat are common, and mongooses, squirrels (including a small flying variety) and porcupines are frequently met. Otters abound in the defiles of the Irrawaddy and the Molè. Wild pig are found throughout the district and hares in the Namwan valley.

Birds.

The bird life of Burma generally has been very fully dealt with by Mr. Oates, and no attempt is made here to produce an exhaustive list of the varieties found in the Bhamo district, which are naturally numerous.

Of game birds, peafowl are found in considerable numbers in the neighbourhood of secluded paddy-fields. The francolin is common in the plains and the bamboo partridge in the hills. In the lower country the Kalij pheasant is found and the silver pheasant is not uncommon in the lower hills. The Chinese pheasant is common in Yünnan and probably occurs in the hills on this side of the frontier. Both the painted and the grey quail occur in small numbers and jungle-fowl are plentiful.

Several varieties of duck and geese are found on the tanks formed by the overflow of the Irrawaddy, but the best and most varied bags are to be made near the frontier. Most of these birds probably breed in the interior of China. Along the Shweli and Namwan rivers in December and January are to be found the bar-headed goose, duck (mallard and spot bill) and the common teal (the cotton and whistling varieties are scarce), while snipe, curlew and golden plover haunt the edges of the tanks. Two varieties of crane also occur in large numbers, and in the foot-hills good bags of woodcock have been made. The latter were at one time fairly common round Bhamo.

Snakes. Both the cobra and the Russell's viper are fairly common in the district, and the krait has been found in Bhamo. In the hills a small red snake is frequently met with.

Fish. The majority of the edible fish in the Upper Irrawaddy and its affluents are varieties of the carp (Labeo). Such are the *ngagyin* and *ngathaing*, but many other varieties are caught by the Burmans to make into *ngapi*, or fish paste. *Mahseer* (Barbus Tor) are found both in the main river and in its affluents, especially the Molè, where a fish of 53 pounds weight has been taken on a rod. The Indian trout is also occasionally taken. The Irrawaddy dolphin is common in the deeper reaches of the main river.

Flora. The greater part of the district is still under forest, though the practice of *taungya* cultivation has to a great extent denuded the hills. Scattered here and there in the plains are open spaces covered with tall thick grass and sometimes extending to several square miles. In low-lying parts these open spaces are heavily water-logged and with the exception of a few, *Bombax malabaricum*, *Ficus glomerata*, *Albizzia procera* and *Streblus asper*, there is an almost entire absence of tree growth. In the drier *lwins* where the grass is comparatively short, the stemless date palm (*Phœnix acaulis*) is found. The existence of these latter *lwins* is attributed to an impervious stratum just

below the surface and, if cultivated, they will only yield a scanty rice crop once in six to ten years (*lèbok*).

The elevation of the district varying from 350 to 7,000 or 8,000 feet it is natural that the flora is both rich and varied. No systematic examination has, however, been made of it. The forests of the foot-hills and plains are of the type usually found in the moist zone of Upper Burma. The hill forests were probably almost untouched a century or more ago. Above 3,000 feet they were for the most part evergreen, and below that elevation deciduous. The former are characterised by oaks and chestnuts and above 4,500 feet by a species of alder, known to the Kachins as *maibao*, but there is a noticeable absence of pines. Cherries, maples and other trees typical of a temperate climate are found, and wild strawberries, raspberries and blackberries abound in the clearings. Cinnamon is fairly common at an elevation of about 3,000 feet. There are few bamboos on the higher hills and the Kachins plant them round their villages for domestic requirements. There is, however, a naturally grown species known as *wăra*.

In the deciduous forests of the lower hills bamboos predominate, the chief species being (to give them their Burmese names) *tinwa*, *waya*, *wapyu*, *myetsangye*, *gyawa* and *thanawa*. Teak is the most important constituent of this forest, which, however, produces a large variety of other trees, including species of *Terminalia*, *Dillenia*, *Sterculia*, *Lagerstrœmia*, *Eugenia*, and *Melia*, together with figs, the mango, and sometimes the giant wood oil trees (*Dipterocarpus lævis* and *alatus*). Other typical trees are *Schleichera trijuga*, *Gmelina arborea*. *Pterospermum semisagittatum* and *Spondias magnifera*. The forests of the plains present great variations, from a dense evergreen to a dry scrubby growth. These forests are broken up, as described above, by open grassy plains. Here and there are large stretches of the wild plantain. The evergreen forest (the least extensive type in the plains) is characterised by canes, species of *Ardisia* and *Eugenia*, *Aporosa villosa* and *Dillenia indica*. Bamboos are scarce. The mixed deciduous forest often contains teak and resembles in general characteristics the deciduous forests of the hills, though it is sometimes void of bamboos. The most extensive class in the plains is the open *indaing* forest, containing *in*, *ingyin* and *kanyin*. Other species found in this area are known to science as *Careya arborea*, *Strychnos*, *Nux Vomica*, *Quercus semiserrata*, *Lagerstrœmia parviflora*, *Gardenia erythroclada*, *Phyllanthus emblica*,

Bauhinea, *Holarrhena anti-dysenterica*, *Terminalia tomentella*, etc.

The absence of pines has already been referred to. Another peculiarity of the district is that *pyingado*, the iron wood of Burma (*Xylia dolabriformis*), which elsewhere s the most common companion of teak and which occurs in the Upper Chindwin district at the same latitude, is almost entirely absent. *Thitya* (Shorea obtusa), which is found in the adjoining Ruby Mines district, is a stranger to Bhamo. *Padauk* (Pterocarpus macrocarpus) is only found in the south of the district, and there is no *cutch*.

The following exotics are found in the district, having for the most part been planted for experimental purposes:—Mahogany, Eucalyptus, Para rubber and Camphor. The rain tree and the gold mohur have been successfully planted on roadsides and in gardens.

Of the species which are cultivated for their fruit or for domestic purposes the principal are—Mango, jackfruit, plantain, peach, pomegranate, guava, cocoanut, bael, lime, pineapple, papaya, *kanaso* (B.), *thanat* (B.), betel palm and tamarind.

At Sinlumkaba (6,000 feet) apples, pears and other English fruits grow, but there is not sufficient sun to ripen them.

CHAPTER II.

HISTORY AND ARCHÆOLOGY.

Anderson* describes Bhamo as forming an integral portion of the ancient Shan kingdom of Pong, of which the capital was first on the Shweli and later at Mogaung. This theory was based on the researches of Captain Pemberton, who derived his information from Shan manuscripts at Manipur; it obtains no support from Burmese or Chinese sources, and the existence of any organized Shan kingdom of this name in the north of Burma is doubted by several authorities—notably by Mr. E. H. Parker and Dr. Cushing.† Whether the *Sawbwas* of Bhamo were independent or subject to a Shan King, it is probable that old Bhamo (Sanpenago) existed as early as the eleventh century as the seat of a *Sawbwa*, and gave its name to a small Shan State. The origin of the dynasty is lost in the mists of antiquity. A local legend describes the troubles of Sektu Min, King of Sanpenago, and his consort, the capture of the king by a

* Anderson, Chapter I.

† Upper Burma Gazetteer, Volume I, Part I, page 187 *et seq.*

powerful neighbour just before the birth of his long-wished-for son and his rescue by the seven-year-old prince with the help of *nats* and *nagas*. The Shan chronicle relates* how Sektu Min's successors continued to rule in Sanpenago till the time of the *Sawbwa* Thô-Kyin-bwe in 400 B.E. (A. D. 1038), at which period the State is said to have extended from the Shweli to beyond Myitkyina, marching with Möngmao and Nanhkam States on the east. The capital appears to have been moved at about this time (1038 A.D.) to Bhamo, that is, "Old Bhamo," twenty miles up the Taping. (The establishment of the present town is ascribed by Anderson to the seventeenth century.†)

Mogaung, and probably Bhamo, was twice overrun by the Kings of Ava during the sixteenth century; the Shans retaliating with less and less success, until in the following century the *Sawbwas* held their appointments from Ava and, on the death of *Sawbwa* Sao Myat Aung in 1771 A.D., the last remnants of independence were taken away by the appointment of a *Wun*, or Governor, as joint ruler with the *Sawbwa*.‡ From that time onwards there was a succession of *Wuns* and *Sawbwas*, the latter title being apparently used for local men and the former for nominees from the capital or elsewhere, and Bhamo was governed by a *Wun* at the time of the annexation of Upper Burma.

Wars between Burma and China.

Owing to its position at the base of the main trade-route from Burma to China, the history of Bhamo in pre-annexation days is to a great extent a history of the wars between these two countries. In the intervals of peace, when the trade-routes were open, Bhamo and its rival, Kaungtôn, basked in the sun of prosperity, until a fresh outbreak of hostilities stopped the caravans and blockaded the towns. The first war occurred about 1284 A.D., when the Chinese invaders advanced by the valley of the Shweli, but it does not appear that Bhamo was affected. The transfer of the Burmese capital to Ava after the destruction of Sagaing in 1364 gave the Theinni route an advantage over the northern passes, from the point of view of a Chinese invader, and the attacks of 1412 and 1413 A.D. left Bhamo undisturbed. In 1442, however, the Chinese again advanced by the Shweli, and in 1449 they attempted the conquest of Mogaung, which successfully resisted them. In 1562 the Peguan Empire had subverted that of Ava and carried its arms into the Shan States and up the Shweli

* Upper Burma Gazetteer, Volume I, Part II, page 57.
† Anderson, page 44.
‡ Upper Burma Gazetteer, Volume I, Part II, page 60.

After its downfall the *Sawbwa* of Bhamo established himself as an independent prince for a short time, but the State was again invaded and annexed by the restored dynasty of Ava, and the Chief fled to Yünnan and was killed in an attempt to avoid extradition.* In 1644 South-Western China was invaded by the Tartars, and Yunlie, one of the Chinese princes who held out against the conquerors, escaped to Bhamo and was given sanctuary at Sagaing. The Tartars demanded his surrender and followed the demand by an invasion of 20,000 men. War was averted by the surrender of Yunlie by the Burmese and of the Bhamo *Sawbwa* by the Chinese. It is not clear why the latter had gone over to China. From this date (1662) there was peace for more than a century, and it was probably the revival of trade with China and the prosperity of the mart of Kaungtôn which resulted in the foundation of the present town of Bhamo, a mile below the ruins of Sanpenago.

Burney† mentions large caravans of three or four hundred oxen and others of 2,000 ponies carrying silk and other merchandise between China and Bhamo. In comparing these figures with those of the present day it must be remembered that the organised system of blackmail pursued by the inhabitants of the border hills necessitated the massing of caravans under the protection of some powerful hill chief whose assistance was bought for the occasion.

Bhamo was the immediate objective of the next Chinese invasion, which took place in 1765. A Chinese trader was improperly treated by the Burmese authorities at Bhamo and another was murdered at Kaungtôn (then a large town nine miles below Bhamo) and reparation was refused. The quarrel was fomented by some Burmese refugees (including the ex-*Sawbwas* of Bhamo and Kaungtôn) at Yünnan. A Chinese army besieged Kaungtôn, whence it was dislodged by a Burmese force from Ava. Driven from their entrenchments on the Taping the invaders returned to China. In 1767 they returned with a large army in three divisions. One division marched on the Irrawaddy above the third defile, the second operated against Bhamo, and the third took up a position in the hills to support the second; a large force of 50,000 men was also despatched to threaten the capital. The King of Ava sent two armies to repel the invaders. Bhamo and Kaungtôn were both besieged by the Chinese. One of the Burmese armies advanced up the

* Anderson, page 18.

† Asiatic Society's Journal, Volume VI, pages 128 and 129.

river in boats, threw some much-needed ammunition into Kaungtôn and then carried the stockades at Bhamo and raised the siege. The army investing Kaungtôn was then taken in the rear and routed. The northern division of the Chinese troops was defeated in a series of engagements and finally dispersed in Santa State, and the Chinese force which had advanced on the capital was worsted by the combined Burmese divisions with great slaughter in May 1767. A second invasion in the same year was at first successful, but Bhamo was stoutly defended by its Governor and the Burmese forces were eventually victorious at all points. Two years later (1769) the war was resumed. A flotilla of boats was fitted out on the Upper Irrawaddy, and Kaungtôn was invested by land and water. The Burmese forces advanced again in two divisions. The river force threw supplies into Kaungtôn, landed at Bhamo and cut the Chinese communications. The Chinese land force at Kaungtôn was attacked and defeated, and a supporting army east of that town was surrounded. Negotiations for peace were opened, the Chinese attributing their invasion to the intrigues of the Bhamo and other *Sawbwas*. The delegates met on the 13th December 1769 at Kaungtôn and the treaty of Bhamo was ratified, much to the dissatisfaction of the King of Ava, who would not allow the victorious Generals to return to Ava till a considerable time had elapsed. The Viceroy of Yünnan, however, appears to have been quite pleased with the action of his Generals. This is not surprising, since, though he had been completely worsted three times in as many years, he lost no territory and paid no indemnity, while his self-respect was safeguarded by the stipulation in the treaty that the customary exchange of presents between Burma and China should be resumed, a ceremony which for some reason was considered by the Chinese to evidence some degree of vassalage and was highly valued. The first embassy despatched from Burma after the war (1781) was detained near Pekin for some years, but subsequently presents were exchanged with some regularity, but whereas the Burmese missions travelled laboriously to the Chinese capital the Ambassadors to Ava appear to have been Yünnan officials of inferior rank, an essentially Chinese method of asserting superiority. There are records of the stipulated exchange of presents in 1781, 1787, 1790, 1792, 1795 and 1796. There were probably two more between 1796 and 1819. Other missions were sent in 1823 and 1833 from both sides.*

* The above account is compiled from Anderson, Chapter II.

After the conclusion of the war in 1770 Bhamo was little disturbed by external troubles till the annexation, and little is known of the minor events which occurred before the British occupation. During the century which intervened Bhamo became the centre of a thriving trade with China, and its erstwhile rival, Kaungtôn, declined in prosperity. The district was recognised as part of the Burmese dominions, and *Wuns* and Governors and other minor officials were appointed from Ava and Mandalay, but the seat of government was distant and there was probably little direct interference with the administration. The King erected and garrisoned a line of guard-houses along the main route to Manwaing as far as Nampaung to safeguard caravans, but an obstacle to the development of trade arose on the other side of the frontier.

The Panthay Rebellion in Yünnan.

The Mahomedans of Yünnan (Panthay) had been growing in power since their arrival in China a thousand years before, and Marco Polo during his residence in China (1271—1295) was struck with their numbers.* Mahomedans held high positions of trust under the Tartar dynasty, and Mahomedan Generals commanded Chinese armies in the invasion of Burma. After the second Tartar conquest they were much oppressed. Their first rebellion in 1765—1767 was suppressed with difficulty and there were incessant risings between 1817 and 1834. The greater part of the trade with Burma in the nineteenth century was in their hands during the intervals between rebellions, and they preserved their ancestral religion to a remarkable degree. From 1860 the Panthay rebellion entered on a more successful phase. They overran Yünnan and the southern part of Szechuan; there was a Panthay king at Talifu, and Anderson, who was at Têngyüeh in 1868, anticipated the establishment of a Mahomedan monarchy comprising the provinces of Yünnan, Szechuan, Shensi and Kwang-hsi.† Yünnanfu fell into the hands of the Panthays in 1868, and it was not till 1874, after many years' continuous fighting, that Chinese supremacy was re-established. Although the trade between Bhamo and China necessarily suffered from these disturbances it is recorded that, except for the first twelve years preceding 1868, the routes were generally open and large quantities of cotton and other goods continued to be exported.

British Mission and Residents.

In 1862 a commercial treaty was concluded between the British Government and King Mindôn, under which it was

* Anderson, page 139. | † Anderson, page 146.

stipulated that a direct trade might be carried on with China through Upper Burma, but the proposal that a joint British and Burmese mission should proceed to China fell through. Dr. Clement Williams obtained the King's permission to proceed from Mandalay to Bhamo, where he examined the advantages of the different trade-routes. Trade was then almost at a standstill, either owing to the Panthay rebellion or to the policy of the Burmese Government. A second treaty was concluded in 1867, and in the following year Colonel Sladen, British Resident at Mandalay, headed a mission through Bhamo to Momein (Têngyüeh), which was well received by the Panthay rebels, who then held the greater part of Yünnan. As a result of the treaty and of the Mission, whose experiences are recorded by Dr. Anderson, a British Resident was appointed to Bhamo in 1869, the first Resident being Captain Strover, but though the trade in native goods rapidly recovered, direct British commerce was not established. A second mission started in 1875, after the suppression of the Panthay rebellion, the object being to establish trade and to penetrate to Shanghai. It is probable that the opposition made to this mission was prompted by resentment at the friendly relations established in 1868 with the rebel Panthays. Whatever the reason, the main party from Burma was attacked and compelled to return, and Mr. Margary, who had been sent from Pekin to meet and accompany the Mission, was murdered at Manwaing in China. The prime mover in this tragedy is believed to have been a Chinaman called Li Si Tai, a notorious robber of caravans on the Bhamo-Momein road, who in 1873 hoodwinked King Mindôn with a story of Panthay oppression, represented himself as a distinguished patriot of high rank and obtained from the King a gift of 20,000 viss of royal cotton then lying at Bhamo. King Mindôn died in 1878 and no more commercial treaties were negotiated. Thibaw attempted to obtain another in 1882, but nothing came of it, and our next dealings with Bhamo took place in different circumstances.

Bhamo on the eve of Annexation.

Bhamo seems to have been but little affected by the blood-thirsty misgovernment of Thibaw's reign and traders continued to pass through between Mandalay and China till 1884, when Haw Saing's rebellion broke out and a Chinese mercenary called Set Kyin was hired by his fellow-countrymen in Bhamo to protect the town against the rebels. The trouble was averted without his assistance, but he started a gambling-hell in the Joss-house which led to riots, and declined to leave till the Chinese merchants had paid the

promised subsidy. This they did, but the Burmese *Wun* confiscated the money and Set Kyin and his followers retired to Matin in the Kachin Hills, whence in November 1885 he attacked Bhamo, drove out the *Wun* and the Burmese troops and burned the greater part of the town. The Burmese invoked the dangerous aid of the Kachins. Set Kyin was sold by his followers and put to death, and Bhamo was in the hands of the Burmese when it was occupied by British troops on the 28th December 1885.

Thibaw surrendered and was deported on the 3rd December 1885, and the second Brigade under Brigadier-General Norman occupied Bhamo on the 28th. Major Cooke was the first Civil Officer in charge of the new district.* No time was lost in exploring the newly annexed country and the first reconnaissance left Bhamo on the 1st January 1886. Although the position of the district kept it free from the organised gangs of armed dacoits which infested the country further south, its unwieldy size, the inadequacy of the military force and our ignorance of the temper of the Kachins made the task of administration during the first few years extremely difficult. The extent of Chinese influence and the position of the frontier were equally unknown, and this uncertainty embarrassed our first dealings with the Kachins. The Shan villages in the plains were completely at the mercy of the hill-people. Each village was alternately 'protected' and blackmailed by the capricious Kachins, and both before and after the annexation prosperous hamlets were abandoned by their inhabitants, unable any longer to support the oppression of their all-powerful neighbours. At first all that was possible was to court the confidence of the people and to punish the more outrageous of the many robberies, murders and raids which were committed. In February 1886 Mogaung, now in Myitkyina district, was visited, and the Kachins took advantage of the weakening of the Bhamo garrison to attack Sawaddi, nine miles down the river. For the most part, the Kachins were waiting to see whether it were worth while to make formal submission to a power of whose intentions and resources they knew nothing, and during the first few months of our occupation the only Chief who came in was the Matin *Duwa*, a man of great influence and character, whose village commanded the "Embassy" route. The perpetrator of the attack on Sawaddi was the Pônkan *Duwa*, whose exploits afforded employment for several expeditions before he was finally suppressed.

English rule.

* The later portion of this history has been compiled from the Kachin Gazetteer and the diaries of the Deputy Commissioner.

A reconnaisance was made into the foot-hills without effect, and on the 12th April another column advanced into the hills and, after some opposition, retired for want of transport for the wounded. A third expedition, consisting of more than 500 rifles and four guns, was sent out on the 22nd May, but stopped short of its objective, partly owing to a doubt as to the position of the Chinese frontier. Other dacoities took place at Myothit and in the Sinkan valley, where the dynastic complications of the Momeik State were beginning to disturb the country. Rumours of preparations for invasion from China were rife, and the Convention which had just been concluded with that country was discredited by the local merchants. The inhabitants of Bhamo slept on the sand banks at night in fear of an attack, and outside the chief town the Kachins were masters of the situation. Sinkan was under the "protection" of the Kara tribe and suffered severely in an attack made by the rival Latawngs of Palôk. Finally, in November 1886, Bhamo itself was attacked by a mixed force of Chinese, Kachins and Shans. The attack, which took place at midnight, was beaten off without difficulty, but the fact that no warning of it was received indicates the unsettled state of the surrounding country. A post of 200 rifles was established at Mansi at the foot of the hills on the road to the Pônkan *Duwa's* village, and an ex-official of the Burmese Government was appointed Myoôk at Shwegu, where there was a garrison of forty men, but the district was still unexplored and in no sense administered, and its revenue was estimated at 3,000 baskets of paddy. The troops were insufficient in number, badly housed and decimated by sickness. During 1887 our hold on the country was gradually strengthened. The *thathameda* tax was collected without difficulty and some measure of confidence was established. Negotiations were opened with Kan Hlaing, whose claims to the *Sawbwa*ship of Mohlaing, a portion of Momeik State, had not yet been either recognised or repudiated by the British Government. Several minor dacoities occurred, but the peace of the district was not seriously disturbed till November, when Si-in, a village on the present main road to China, five miles from Bhamo, was raided by Kachins from Salay (Sarè) village, above Myothit. Three persons were murdered and two children abducted. An expedition from Bhamo, consisting of 100 men with two guns, exacted prompt retribution: four villages were burned and the captives recovered, but our losses were severe. Shwegu had been the scene of a slight engagement in March, and in November various

robberies and murders by Kachins in the rich villages of the Kyidawgyi plain necessitated an expedition against the offending villages, which was entirely successful. Before the end of the year Kan Hlaing, who had been provisionally recognised as *Amat* of Mohlaing on certain conditions, which included the resumption by the British Government of the villages in the Sinkan valley formerly constituting the Kaungtôn township, refused to renounce his claims to the *Sawbwa*ship of Momeik, broke into open rebellion and was outlawed (October 1887). Although he contrived for some time to terrorise the Shan villages of the upper Sinkan, Kan Hlaing was really dependent on the support of the Kachins, and it was against the villages of Lwesaing and Tonhôn who harboured him that our operations were directed. The Deputy Commissioner reached Si-u in November 1887, and the new township, with headquarters at Sikaw, was formally constituted from the 1st December.

It was not, however, found possible to deal with Kan Hlaing during the open season of 1887-88, which was chiefly occupied with operations in Mogaung and the Jade Mines, while affairs of minor importance were of continual occurrence in and around Bhamo. In February 1888 there was an outbreak from the jail in Bhamo; five men got clear away and joined Kan Hlaing. A Chinese trader was murdered on the road to Mannaung by Kachins from Hotôn early in the year, and in April a caravan near Sawaddi was attacked. In this case, however, the mounted infantry came up with the raiders fifteen miles from Bhamo, and killed three or four of them. Cholera broke out among the troops in May 1888, and throughout the rains attacks and rumours of attacks were frequent. Saw Yan Naing (grandson of the Mekkara Prince) was reported to have joined hands with Kan Hlaing and the Sinkan valley was much disturbed. Serious dacoities took place at Manpin, near Bhamo, and Shwebôntha, below Shwegu, and serious trouble threatened between some foresters and the Kachins on the Kaukkwè. In September Kachins attacked some traders' boats in the upper defile, killing one and wounding four men and looted Rs. 4,000 worth of property, and in a dacoity at Yônbin (Shwegu township) women were tortured. The trouble on the Kaukkwè came to a head in November when the foresters were attacked by the Kachins in force. Rumours of warlike preparations in China continued to come in and the new opium regulations caused a certain amount of unrest among the community in Bhamo. Kan Hlang sent threatening letters to the Bhamo Myoôk and the two

pretenders began to intrigue with the still unpunished Pônkan Kachins. In December another pretender appeared in the upper Molè, but the gathering was dispersed in the following month and fifty of his followers killed. Documents found in the rebel camp shewed that the rising was fomented by the Chinese. A visit to the upper Sinkan valley disclosed the fact that Kan Hlaing had practically occupied Si-u, but he retired to safety among the Ton-hôn and Lwesaing Kachins (to whom he was related by marriage) on the approach of the Deputy Commissioner. A series of military patrols was organised to Sikaw and Si-u during the dry weather, and the latter place was found deserted. In February 1889, the Pônkan Kachins, who had been intriguing with Saw Yan Naung and the Chinese, made a reconnaissance into the plains but did no damage. In the following month they came into collision with our troops, but our available forces were too much occupied with Mogaung and Sikaw affairs to equip an expedition, and Mansi, Kyawgaung and Sawaddi were all attacked by the Kachins. The day of reckoning came, however, at last, and on the 15th April a force left Bhamo under General Wolseley, with Mr. Shaw, Deputy Commissioner, as Civil Officer, finally to suppress this troublesome tribe. The troops operated in two columns, and Pônkan was occupied with very little opposition on the 18th. A heavy fine in money and guns was imposed and paid, and the destruction of houses and paddy further impressed the Kachins with the reality of British power.

An attempt to surprise Kan Hlaing at Tonhôn in May failed and the Kachins retaliated with a raid into Si-u, but were intercepted by our troops and lost over twenty men. In July a formal demand for the surrender of the outlaw was sent to Tonhôn and Lwesaing, and in the same month they attacked Sikaw village but were beaten off. The feud between the Lena Kachins and the foresters in the Kaukkwè valley continued to cause anxiety. The rainy season was also notable for a series of thefts of cattle and ponies in Bhamo town which culminated in an attack by dacoits on the Bhamo Myoôk's house in Bhamo. This was at first thought to be in revenge for the assistance rendered by him in the operations against Pônkan, but subsequent outrages committed by the band made it clear that they were unconnected with Kan Hlaing and the Kachins. The Tonhôn expedition was sanctioned in November 1889, and the column started on December 15th. Lwesaing was occupied on the 23rd with only one casualty, and Tonhôn on the following day. Both villages were burned, and a fine of

Rs. 10 a house was imposed on these and other villages concerned in the harbouring of Kan Hlaing, and the Lwesaing *Duwa* and others were detained in Bhamo as political prisoners. The troops returned in April, and although Kan Hlaing and Saw Yan Naing were not captured the expedition extinguished their power for harm in this district. An expedition visited the village of Kyusaing, which had been guilty of several dacoities in the plains, in May, and exacted reparation, with the result that shortly afterwards the Kachins brought in the head of a notorious dacoit, and another, Nga Maung, was brought in alive. Earlier in the year proclamations were found shewing the existence of other pretenders to authority, and in June a *minthu* of some importance was captured by villagers and brought in to Bhamo, and throughout the rains the Kachins gave evidence of goodwill by seizing and surrendering dacoits. Several attacks were made on caravans by Kachins during the year, mostly on the Embassy route, and the offending villages were punished in the open season. In January 1891 there was a recrudescence of dacoity, the most serious being committed in the upper Sinkan valley by Bo Maung's gang, and an expedition went out to deal with them. Early in March the Kachins attacked a column of Military Police in camp at Hantôn and there was considerable excitement among the Chinese over the border. The Hantôn *Sawbwa* was shot and the guilty villages burned. The long delayed expedition against the recalcitrant Kachins of the Kaukkwè was undertaken in April 1891 and the tribes which had been guilty of raids in the valley were punished. During the monsoon the guns in the hands of villagers in the plains were systematically registered and stamped and effective administration was gradually established as the people came to understand that the British occupation was permanent.

The state of affairs in the Kachin Hills was however still unsatisfactory, and it was recognized that our policy must change if definite permanent results were to be obtained. All expeditions up to 1890-91 had been practically confined to those of a punitive nature. We had waited till the Kachins harried or attacked villages in the riverine tract and then after a greater or lesser delay proceeded to inflict such punishment as was possible in a comparatively hurried excursion to the hills and back again. It was now resolved to undertake the definite subjugation of the Kachins within a reasonable area on the eastern hills and of all Kachins lying west of the Irrawaddy in so far as that area lay within the boundaries of the Bhamo district and to impose the

obligation of paying tribute on them not as a means of raising revenue but as a convincing testimony of their position of political subjection. It was also made a portion of the new policy that a certificate or appointment order was to be given to each headman or local authority recognizing him as chief over his local area, setting out his obligations towards the British Government, and laying down that he would be supported in the exercise of his customary authority so long as he used it properly and behaved well. As a consequence of this important alteration in the scope and purpose of our political action very much more extensive Military and Police operations were undertaken, and starting with the cold weather of 1891-92 a series of expeditions worked the Kachin Hills pertaining to the district thoroughly. The whole of the eastern hills were thoroughly explored, tribute was collected, guns inspected and licensed or destroyed. The columns met with no active resistance except at Sadôn, but the obstinate attitude of the Chinese authorities continued to protect the refugees who infested the Namhkan valley. Before the end of 1891, Chinese troops crossed the Nampaung, but they withdrew on the approach of the Deputy Commissioner, and the British post of Nampaung was established, with a garrison of a hundred men to safeguard this portion of the frontier. The Kaukkwè column on the west of the river met with resistance, and reinforcements were necessary before the Kachins were reduced to submission. In July 1892 a pretender calling himself Setkyawaddi Min appeared on the Molè with a following of about a hundred men. He was hunted across the Irrawaddy, where the band was dispersed and six of them killed. The leader was identified as the man who, four years before, had headed a gang of rebels on the upper Molè, and, as on that occasion, many Chinese were concerned. A gang of fifteen dacoits gave considerable trouble in the Sinkan valley and successfully evaded capture. At the commencement of the cold weather a post was established at Namhkam, and as soon as the open season commenced two Military and five Military Police columns started out to establish our authority within what had been recognised as the Chinese border. Two of the columns from this district were diverted to the relief of Sima in the Myitkyina district, which was besieged by the Kachins. The Namhkam garrison was engaged several times and had to be reinforced in February 1893. Two important gangs which had long harried the Sinkan valley were broken up by the Kachins and the Kaukkwè Kachins were disarmed. For political reasons the Kaori Kachins of

Matin were left unvisited and this tract remained a constant menace to trade, the people being notorious cattle-lifters. Up to this date we had not interfered with the system of tolls, which obtained on the trade-route *viâ* Myothit and Nampaung. These tolls were collected at the Nampaung ford on the frontier and divided amongst the chief *Duwas* between the two places. The Matin *Duwa* claimed special rights in respect of tolls on the Embassy route, south of the Taping, and, being a man of great influence and strong character, was extremely averse to interference with his ancient rights. Although up till the year 1893 the attention of the authorities had been directed mainly towards the pacification of the hills, the administration of the villages in the plains had been slowly but surely progressing, and with the suppression of their turbulent neighbours the scattered inhabitants of the old hamlets gradually returned to their peaceful avocations. Isolated dacoities continued to occur, but it was now possible to enforce the responsibility of villages which harboured or encouraged dacoits and the people were no longer left in doubt as to the reality and permanence of the British Government. Nothing definite had, however, yet been decided about the Chinese frontier and many outstanding matters awaited settlement, including the free resort of rebels and dacoits to the Chinese Shan States of Möngwan and Möngmao, which the establishment of a post at Namhkam did little to check. In December 1893, Chinese deputies visited Bhamo in connection with the frontier, being commissioned to point out certain "gates" which were said to mark the line. The nature of the expeditions in the Kachin Hills now underwent a significant charge. They were no longer punitive columns with a definite mission to punish past misdemeanours. Some force was necessary to ensure compliance with orders, but the column became the escort of the Civil Officer who was charged with the duty of settling boundaries and cases, and whose mission was primarily not retribution but administration. Nevertheless, the uncertainty regarding the international boundary prevented the season of 1893-94 passing over without a conflict and the Civil Officer and his escort were attacked at Pansè, near the provisional Frontier. Our intention to administer up to this line pending delimitation was, however, formally reiterated. An attempted rising in the Shwegu subdivision in support of a *bogus* "Mintha" was disclosed before anything more compromising had occurred than the taking of an oath by the conspirators, most of whom were tried and convicted,

and subsequently earned an addition to their sentences for a murderous attack on a jail warder, committed in an attempt to escape from jail on Christmas Day, 1894.

In December 1894 a meeting was arranged at Namhkam with the Têngyüeh Prefect, and the opening of a proper road to Namkham from Bhamo was discussed. This was the first result of the Chinese Convention of 1894, and was followed by a meeting with the *Sawbwas* of Santa and Kangai, in which the first attempt was made at a settlement of frontier cases by negotiation. Resistance was encountered early in 1895 from a village near the new road, but this was unconnected with the frontier question and the chief offender was deported. Meanwhile the road was surveyed and the work of construction was commenced. At the same time work was begun on the extension of the telegraph line from Nampaung, on the frontier, to Têngyüeh and Yünnanfu. The season of 1893-94 may be looked upon as the turning point in the work of administering the Kachin Hills and, with the exception of the Boundary Commission, nothing of more than local importance has occurred since that date. The Matin Tract was visited in March 1895 and the cattle-lifting Kaories brought into line with the rest. The administration of the hills was in that year placed on a regular footing by the passing of the Kachin Hill Tribes Regulation of 1895, and the tolls which were collected by Kachin *Duwas* on the Nampaung road were abolished in 1897, though Matin abandoned the custom with difficulty. Several administrative changes took place about this time. The Myoôk of Sinkin died in 1895 and the township was merged in that of Bhamo. In the same year the Myitkyina district was formed from the northern half of Bhamo, and in 1897 the township of Kaungtôn was abolished and the charge transferred to Shwegu. Steady progress was made in opening up new roads in the plains and the main route to China was much improved. By 1897 a beginning was made with the recruitment of Kachins for the Military Police and a Civil Officer was permanently posted to the eastern hills, with headquarters at Sinlumkaba; *taungôks*, or supervisors of the hills, were appointed under him. In the same year the Agreement with China was concluded, modifying the boundary in favour of Great Britain, and the Joint Commission provided for in the Convention of 1894 commenced its labours before the end of the year. The northern section of the frontier with China was held over till the following season owing to unforeseen difficulties and misunderstandings, and there was a collision between one

of the district escorts and the Shans near the present Lweje post, where stockades had been erected in defiance of the agreement line.

The boundary was completely demarcated early in 1899, and the erection of Military Police posts and the construction of roads to and between them was at once taken in hand. Panghkam and Lweje (completed 1902), Warrabum (1903), Alawpum (1902), and Pumprebum (1906) now form a line of frontier posts connected by road with Bhamo and with each other. The Nampaung post has been abandoned since the construction of a suspension bridge across the Taping led to the diversion of the trade route, and a new post has been constructed at Tonhôn (1907), from which, in case of need, the block-house guarding the bridge can be garrisoned. Since 1901 regular meetings with the Chinese officials have been held on the frontier every cold weather, when pending cases are discussed. The meeting of 1901 was of considerable importance, as a large number of ancient cases were settled for an indemnity and certain general questions of procedure were decided. Subsequent years do not contain any incidents worthy of record in a historical review.

CHAPTER III.

THE PEOPLE.

The district is sparsely populated, even in the plains, and the conditions of life in the hills, where enormous areas are required to furnish ground for the wasteful methods of cultivation to which the Kachins adhere, are such as to reduce the population per square mile for the whole district to less than twenty.

The Census of 1901 showed that the population is distributed almost equally between Burmese, Shans and Kachins, the last named being in a small majority. The only other race which is more than nominally represented is the Palaungs, who were ousted from the hills by the Kachins. The so-called Burmans are for the most part a mixed race, the result of the intermarriage of Burmans with the original Shan inhabitants of the district, and they should more correctly be described as Shan-Burmans. Races.

Too much reliance must not be reposed in the Census figures. In 1891 large portions of the hill-tracts were left unenumerated. No statistics of any value are available by Growth of population.

which the population under Burmese rule can be estimated, but it is certain that in the years before 1885 many flourishing villages disappeared before the inroads of Kachins and the hills were the scene of frequent and devastating intertribal conflicts. Under British administration the population of the hills has undoubtedly increased and there are signs that in some parts the limit of population which the country can sustain under existing conditions has almost been reached.

In the plains such increase as has taken place is mainly due to immigration. Many families of Shan-Chinese from the neighbouring States of Santa and Hosa-Lasa cross the border every year in search of culturable land, of which many square miles still await the plough. A few of the villages which were deserted during the disturbed times before and after the annexation have been reoccupied, but the indigenous population does not tend to increase as rapidly as might be expected.

Languages. Shan is the common language of the plains and Kachin of the hills. Most of the plains-people can and do speak Burmese in official dealings, but they are much more familiar with Shan. Imported Burmese words have been incorporated with the pure Shan, which was the universal tongue of the low country before it came under the domination of the Burmese Empire. In the riverine villages and especially in the Shwegu subdivision, pure Burmese is rapidly displacing the hybrid dialect.

Shan. Pure Shan is confined to immigrants from the Northern Shan States. It is described by Dr. Cushing as a monosyllabic language but has many polysyllabic words of Burmese and Pâli origin. Under the influence of many years of subjugation to Burma, Burmese words have been introduced and incorporated. The reception by the Shans of their religious books from the Burmese has also resulted in the addition of many Burmese and Páli words. Indeed, their religious language is a Mosaic of Shan-Burmese and Pâli.* The formation of the characters used in their religious books closely resembles the Burmese system.

Kachin. The Kachin language is also monosyllabic, but compound words of Burmese and Chinese origin have been adopted where the meagre Chingpaw vocabulary failed to express ideas foreign to a primitive race. The process is specially observable among the Kaories on the Embassy route, many of whom can speak Yünnanese.

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* Grammar of the Shan Language, page 7.

Other dialects of the Kachin language spoken in the hill-tracts are Maru, Atsi and Lashi. They present striking similarities, and their close affinity to Burmese has been held to prove that they came from the same origin as the parent tongue of the plains. Dialects of Kachin.

Yawyin or Lisaw, like most unwritten languages, is monosyllabic, and, judging from the few elementary words and phrases collected, it would appear to be a polyglot compound of Chinese, Burmese and Kachin. It is extremely guttural, and the sounds and articulation so very indistinct that it is quite impossible to convey an accurate rendering of them by an English transliteration. Yawyin or Lisaw.

The Palaung language, of which very little indeed is known, would appear to be monosyllabic and is even more gutteral and indistinct than Lisaw. They have no written language of their own, but have adopted the literature of the Shans, in which they are instructed in their monasteries. Palaung.

The education of the people is referred to in Chapter XII. As is natural in a district of such scattered population, it is backward and makes slow progress. Education.

The occupations of the people are discussed in Chapter VI. Occupation.

The principal religions professed by the inhabitants of the district are Buddhism and Animism or spirit-worship. The former is the creed of the Shan-Burmese, the pure Shans, Shan-Chinese and Palaungs, the latter that of the Kachins and cognate tribes. Religions.

Here, as elsewhere in Burma, orthodox Buddhism is much tainted by the admixture of spirit-worship, and many years of association with the *nat*-ridden Kachins have tended to spread the heresy. The propitiation of the evil spirits is never neglected in times of calamity, and professing Buddhist villages threatened with cholera do not scruple to call in a Kachin seer or *dumsa* to discover which particular spirit should be placated. Sir George Scott explains the laxity of Buddhists in the Upper Province as compared with Lower Burma by the fact that the religion was forced on the people and is of more recent date. "This was in 1058 A.D., and it seems probable that Buddhism only extended to the upper valley of the Irrawaddy and the Shan States, as Burman influence extended thither, and this, as appears from the Shan and Chinese annals, was much slower than has hitherto been believed. It is therefore natural that *nat*-worship should be much more prominent in Upper Burma than it is in the Delta."* An Buddhism.

* Upper Burma Gazetteer, Part I, Volume II, page 31.

interesting example of the ingrained superstition of the Shans is given by Anderson in his account of the Mission to Momein,* and for a description of latter-day Buddhism the reader is referred to Chapter X of the *Upper Burma Gazetteer*.†

The *Pôngyis*.

The *Pôngyis* or Buddhist Clergy of the district are, with the exception of a sect known as *Pwe Kyaung Pôngyis*, of the same order and observe the same ritual as their brethren in other parts of the province. The *Pwe Kyaung Pôngyis* are peculiar to the Shan-Chinese Buddhists and have little but the insignia of their calling in common with the true Buddhist priesthood. Opium and strong waters are not forbidden to them and they are apparently free from most of the restraints and disabilities of the priesthood. Their monasteries are fortified with loopholed brickwalls, and in case of attack the presiding *pôngyi* takes command of the defensive operations, the besieging force not infrequently being led by a militant priest from a neighbouring village.

The Christians.

The earliest missionary enterprise was that from the China Inland Mission in 1856-57, when Dr. Francis Mason made a tour among the western Kachin Hills and was held captive at the instigation of the Burmese officials for many years. In 1876 the American Baptist Mission entered the field, and in the following year Dr. Cushing obtained the sanction of the Burmese Court at Mandalay to take up his residence at Bhamo with two assistants and some Karen teachers. The Revd. W. H. Roberts arrived in 1878 and has worked among the Kachins ever since. Considerable success has been obtained among the Kachins, to whom both religious and secular instruction is imparted, and several Christian villages have been established in the hills. A Roman Catholic Mission is also at work in the hills, and the China Inland Mission has a branch in the district. Little progress has, however, been made with the people of the plains.

Social and religious life of the Shan-Burmans.

The characteristics of the people of the plains do not differ materially from those observed in other parts of Upper Burma, and their religious and social life has been fully described by Sir George Scott in the *Upper Burma Gazetteer*. The following paragraphs therefore deal only with the Kachins and cognate tribes.

Creation of the world: Kachin beliefs.

Kachin mythology assigns three stages to the creation of the world, the floating masses of vapour which existed in the beginning giving way to the formation of the "Middle

* Anderson, page 236. | † Part I, Volume II.

Kingdom" or visible heavens and finally solidifying to form the crust of the earth.

These three stages of creation extended over countless ages and were the work of "Nphan Wa, Ning Sang," the all-supreme being. The word 'Phan Wa' would at first sight appear to be of Burmese origin, but is really a pure Kachin word and occurs frequently in the archaic language of the *Jaiwas* or priests. In its early stages of existence the earth was inhabited by every imaginable form of spirit and monster. These disappeared in the course of ages, it is not explained how, and were followed by the spirits known as Sik Sawp and Hkrip Hkrawp. "Sik Sawp, the female, represented heaven, and Hkrip Hkrawp, the male, represented earth; these two gave birth to Chanum and Woi Shun, who in their turn gave birth to all things in heaven and earth. After they had created all things they made a being called Ngawn Wa Magam, a semi-divine creature who, with his big hammer, gave shape and beauty to the earth, and made it habitable for human beings. His home was in the mountain called Majoi Shingra Pum, whence he dispensed his blessings upon mankind."*

Kachin religion.

The religion of the Kachins is frankly animist, and the number of their spirits or *nats* is legion. The first spirits, as already remarked, were Sik Sawp and Hkrip Hkrawp, who gave birth to Chanum and Woi Shun. Of their offspring the following are the more important and universally recognized spirits with their full titles:—

(1) Langam—"Darup Ning Yawng, Maga Ning Shawng," known commonly as "Chitton"—the most malignant of all *nats*.

(2) La'n Naw—*alias* Masawgaw Ngun, Nsangga Khun, known as "Mu"—the spirit of the heavens.

(3) La Nla—*alias* "Suppong Nöng, Gam Long Krong," "Sinlap"—the spirit of wisdom.

(4) La Ntu—*alias* "Masaw Gok Wa Lakya 'Nsanggam Wa Matha," "Hponpoi"—also a *nat* of the heavens.

(5) Lantang—"Jan Wa Ning Sang Wun Būprawnang," the spirit of the Sun and Moon—is only invoked when a *manao* festival is held.

(6) La Nyaw—"Hpraw Ma Wai Ching Hta Madai," "Madai"—the guardian spirit of all households.

(7) Lankha—Madaw Kum La Sakha Kumphang, "Sakha"—another household *nat*.

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* Geis; Hertz's Handbook, page 156.

(8) "La Sharoi"—"Kyewa Ning Chang Phang Wa Ning Sang"—may only be worshipped by Chiefs when they hold a *manao* festival.

(9) "La 'Nyun"—"Kinchu Duwa Kin Nam Chowpa," "Chaga"—invoked when a man is wounded about the head and face.

(10) "La 'Nching"—"Kumdi Duwa Kumthang Chaopa," known as "Hpa Khan"—a household *nat*.

There are, besides the above, eight other spirits of the first order, the offspring of one Kin Krong, who is said to have existed prior to even Chanum and Woi Shun. Their names, with the exception of the third, who happened to be a female known as Kaw, are identical with the first seven given above. Four of the seven are apparently only invoked by the Maru tribe. Lankha, the last of these brothers, is propitiated preparatory to going on the warpath. All the abovenamed *nats*, with the exception of Kaw in the second order of the spirits, are males. In addition to these there are also well recognized female *nats*, of which the more important are:—

(1) "'NKaw" *alias* "Jum Wa Majan," the mother of essentials composing the body of all living matter.

(2) "Nlu" *alias* "Chu Dwi Majan," the mother of milk.

(3) "Nroi" *alias* "Sao Wa Majan," the mother of adipose tissue.

(4) "Nthu" *alias* "Makdum Majan," the mother of dyes.

(5) "Nkai" *alias* "Phraw Majan," the dispenser of beauty.

(6) "Nha" *alias* "Sanila Sang Majan," the giver of hair.

The female *nats* are all beneficent and are, with the exception of certain "Maraw spirits," but rarely propitiated.

Kachin religious ceremonial.

There are two ways of consulting the *nats*, either by a possessed medium termed a "Mi-Tway," or by the *tumsa* or regular priest, who is quite distinct.* There is no sacerdotal caste, the succession being kept up by natural selection and apprenticeship.† The *tumsa* practises augury from fowl bones, omens, and the fracture of burned *nul* grass, besides holding communication with the spirit-world. The *tumsa* ascertains which *nat* is to be appeased and dresses accordingly. He then delivers a harangue, and at the correct moment, which is ascertained

* Anderson, page 37. | † *Ibid.*, page 126.

by divination, the sacrifice is made. The body of the animal—buffalo, pig, dog or fowl—is cut up by a special official, and certain parts reserved for the *nat* are disposed on the altar especially devoted to him, a collection of which is to be found near the entrance to every village.

The personality of the *nat*, kindly or otherwise, also determines the subsequent disposal of the flesh, and in some cases the offering is purely formal. When the requisite animal is not immediately forthcoming the *tumsa's* promise to sacrifice on the first opportunity will sometimes appease the spirit.

Consultation of *nats*.

In questions involving the interests of the villagers, such as an impending attack on another clan, the Kachins first consult the spirits, and their will is often ascertained by a *mitwe*, or inspired medium. A graphic description of the methods of divination is given by Dr. Anderson.* Great importance is attached by the Kachins to the *mitwe's* reading of the will of the spirits and no serious undertaking is entered upon without the ceremony, which differs little in its details from the less ingenuous antics of western impostors. The fitness or otherwise of an aspirant to the post of *mitwe* is ascertained by a searching and painful ordeal.

Divination.

Various methods of divination are employed by which the inclinations of the *nats* may be ascertained without the intervention of a *mitwe*.

A green bamboo is placed on a fire and auguries are drawn from the little fibres which spring up along the split. Leaves are shredded and the slips knotted together and consulted. The entrails of cattle and pigs and the brains and sinews of fowls yield information to the seer, and mystic triflings with an egg or a piece of ginger which look like an unsuccessful conjuring trick, enable the expert to announce whether the auspices are favourable or the reverse.

Maraw.

"*Maraw*" appears to be a ceremony or minor sacrifice performed by an individual to avert misfortune from his person or property. If a man buys a handsome pony and it is talked about, the owner has recourse to *maraw* lest an accident should happen to it, and if a woman gives birth to twins, an occurrence which is very unusual among Kachins, the parents are obliged to do *maraw* every month.

In this ceremony various *nats* are invoked according to the occasion. A particular spirit is addressed if witchcraft is suspected, another on release from confinement and another on the successful conclusion of a raid, and so on through the

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* *Ibid.*, page 249.

primitive joys and sorrows of the hillman's daily life. Most of the *nats* thus invoked are males, but Makri, whose *maraw* is made the occasion of a general village ceremony, is of the gentler sex.

In July and August the young men and women of the village arrange a sort of picnic in the jungle, where they collect a great heap of bamboo shoots. These are finely sliced by the young men and placed in rough conical-shaped baskets lined with leaves. The whole is then covered with several layers of bamboo sheaths and pressed down with large rocks, and left for three or four months.

Before they return to the village the young people take an oath of continence, the breach of which entails the spoiling of the brew which they have prepared against the Makri festival. All being well the whole village repairs on the appointed day to the spot where the shoots are buried. "Makri *maraw*" is invoked with sacrifice and song, presents are exchanged and love-making is resumed. The other female *maraw nats* are mainly concerned with the troubles attending courtship and marriage.

The *Mannao* festival.

The greatest of all festivals among Kachins is that known as the "*mannao*," but as its indulgence involves considerable expenditure it is usually organised by a *duwa* or a wealthy commoner. The following are the details in connection with this festival:—The prospective host slaughters a bullock or buffalo and little packets of meat are sent to friends and neighbours. On the appointed day the guests stream in from *all* directions in their best clothes and, if they can afford it, with small contributions of money or food. On the day before the festival a circular space is cleared in front of the host's house, levelled and enclosed by a low mud wall. In the centre are erected four painted posts, on the shortest of which is suspended a large drum known as *chinggaba*. A pig or fowl is sacrificed during these preparations and a bullock or buffalo is offered next day to the donor's ancestors, while such additional propitiations as the diviner finds to be necessary are also made.

The dance is started by two expert leaders, armed with raspberry branches, and after certain formal evolutions to the strains of the band the main body of the villagers joins in and the dance continues till nightfall, to be repeated every day for four days—never more. Throughout the festival the *jaiwa* tells stories and the *tumsas* call down blessings on the host.

Courtship.

Kachin courtship is a sort of probationary marriage and may or may not end in a permanent union; but the birth of

a child during this period subjects the father to a fine to be paid to the girl's parents in default of a regular marriage.

Marriage.

There are certain arbitrary degrees of consanguinity within which a man or woman may not marry, and among the five parent tribes custom, which is, however, rapidly weakening, required a wife to be taken from a particular tribe.

Polygamy is permissible but rare, though the custom still subsists under which a widow is taken as wife by the dead man's brother, and, if he die, by the next brother. A widow cannot marry outside her late husband's family without their consent.

Marriage ceremony.

The religious ceremony is often preceded by a formal abduction, condoned by the parents after an inspection of the wedding presents. As in all affairs of life, the diviner's aid is called in and the bride's destiny foretold. In other cases the services of a go-between are employed to obtain the parents' consent and assess the value of the presents. The bridegroom's promise to pay is, however, often accepted as sufficient The presents accepted, bridesmaids are selected with the aid of the *tumsa*, and the bride and her attendants proceed to the groom's village where, at the propitious moment, she passes over a path of strewn grass, sprinkled with the blood of fowls, to the house and propitiates the household spirits with offerings.

Funeral ceremonies.

Kachins bury their dead with elaborate ceremonial, except in the case of a person dying in child-birth or by violence, when the body is burned. Idiots are buried in an upright position and the head is covered with an iron pot, to prevent the lunatic being reborn in a similar condition. In ordinary funerals the proceedings are designed to persuade the spirit to rest quietly with its ancestors and are, like most Kachin ceremonies, accompanied by sacrifices and feasting as well as a nightly "death dance."

Witchcraft.

The belief in the power of witchcraft is universal and it leads to many tragedies and feuds. *Tumsas* can be hired to cause sickness or death by occult means, though they bear no responsibility for the result, and many unfortunate individuals are credited with the possession of "two souls" or the evil eye.

Trial by ordeal.

Trial by ordeal is frequently resorted to in civil cases, and each party backs his opinion by depositing stakes with a referee. Frequently the test is arbitrary and is carried out with the aid of the *tumsa*, but sometimes it takes the form of a competition between the rivals, and in a recent case a long-standing dispute was decided in favour of the

party who could remain longest with his head under water. In this case each party had his supporters, who betted freely on the result. The winners seized their stakes with great alacrity and one exasperated loser severely assaulted the unsuccessful litigant.

Slavery. Slavery, discountenanced under British administration, is practically extinct, but was formerly extremely common, and slaves formed part of the booty of every raid. They were not cruelly treated, were allowed to earn money on their own account and could intermarry with freemen. They could be redeemed by their friends or exchanged against others.

Chief Kachin tribes. The five chief tribes of the Chingpaws, or true Kachins, are the Marips, Latawngs, Lepais, Nhkums and Marans. These are subdivided into a number of sub-tribes and clans too numerous to mention.

Cognate races. Atsis, Lashis and Marus, though not true Chingpaws and as a rule mentally and physically inferior to them, appear to have migrated from the north about the same time and are to be found on the eastern fringe of the district. They speak separate dialects and are readily distinguishable from the true Kachin. Another tribe is known as Lisaw or Yawyin. They inhabit the highest hills and are rarely encountered at an elevation below 5,000 feet, where their methods of cultivation have devastated the hillsides. They are said to have come from the mountains between the Shweli and Salween rivers and are physically a fine race with a resemblance to the Chinese. Their dress and language is distinctive, and ancestor-worship is grafted on the pure Animism usually found in the hills.

Other races found in the district. The Hpun Shans, who inhabit a few villages in the upper defile, speak a dialect distinct from the Shan of Namhkam, but are otherwise not distinguishable from the other Shan-Burmans of the plains.

Assamese. A small colony of Assamese exists at Wethaligôn, a suburb of Bhamo. They were brought to Burma after one of the wars with Assam and still retain a few of their national characteristics.

Palaungs. The Palaungs inhabited the whole of the hilly portion of the district until about the beginning of the eighteenth century, when they were ousted by the Kachins. They still occupy a few villages in the south-east corner of the district. Their origin is obscure, but Sir George Scott * considers them to be allied to the Wa. They are a timid race, and

* Upper Burma Gazeteer, Volume I, Part I, page 484.

could not stand before the blood-thirsty Chingpaws. They live by trading and cattle and pony-breeding as well as by cultivation, wear a distinctive dress and have borrowed the Shan character for their writing. They resemble the Namhkam Shans in appearance but have darker complexions.

Chinese. There is a flourishing colony of Chinese in Bhamo, both Cantonese and Yünnanese, and the latter have established one or two villages in the hills.

CHAPTER IV.

Agriculture and Irrigation.

Area under cultivation. Of the whole district less than one per cent. is under cultivation. Even in the plains, where large areas are available for the plough, want of population is a fatal obstacle to extension, while in the hills the area which is cultivated in any one year is an infinitesimal portion of the whole.

Crops. Almost the whole of the cultivated area is under paddy of one variety or another. A few acres of sessamum, tobacco and vegetables are found, and in the hills poppy, maize and cotton, but the staple crop is paddy and the people are very slow to adopt a novelty.

Wet-weather paddy. The main crop is *kaukkyi*, though some of the shorter-lived paddies are found here and there. It is almost invariably transplanted, and the cultivator is dependent on abundant rain in July to enable him to do this successfully. On the other hand, floods are as disastrous as drought and leave a heavy deposit of sand behind them. Once the transplanting is finished, the husbandman feels little anxiety till October, when a premature failure of the monsoon frequently means the loss of his crop. As a matter of fact the rains in this district, although moderately abundant, are seldom well-distributed, excessive falls early in the year when they are of little value to the agriculturist being counterbalanced by failure of the autumn showers which are all-important. The villages along the Taping river have the reputation of producing the best grain, though not the most abundant, the heaviest crops being harvested in the valley of the Paungnet *chaung*, in the Shwegu subdivision, where primitive irrigation works have much improved the soil and the outturn. This is the only part of the district which habitually produces a surplus. For the most part the people

barely produce enough for their own wants, and in a lean year get their supplies from down the river.

Dry-weather paddy.

Mayin paddy is grown extensively where the nature of the ground is suitable. It is not popular as a food-grain, but coming as it does when the main crop supplies are almost exhausted it is a valuable asset to the cultivator. *Mayin* is to be found in all the flooded *kwins* left near the bank by the falling Irrawaddy and Taping and also in certain favoured areas along the foot-hills where the supply of water is unfailing. The supply of water is often regulated by bunds erected by the villagers, and the bursting of one of these dams means the loss of their dry-weather crop.

Sessamum.

Sessamum is grown either on the uplands or on the silt-covered islands of the Irrawaddy. It is, however, a precarious crop in this district and most of the oil required is imported.

Tobacco.

Tobacco is found on the islands of the Irrawaddy where the soil is suited to it. It is of poor quality and commands a strictly local market.

Vegetables.

English vegetables have been cultivated with considerable success both in the hills and in the plains, the potatoes, in particular, being of excellent quality. The best come from the hills near Sinlumkaba, but fine specimens are grown on the islands of the Irrawaddy, and peas, beans, tomatoes and cauliflowers can be successfully raised.

Terraced cultivation.

In those parts of the hills where the pressure of population and the destruction of tree-growth have made it impossible to raise a crop by *taungya* methods, the hill slopes are laboriously terraced in every spot where there is a supply of water. In some instances water is brought a considerable distance by means of primitive bamboo aqueducts. The system of cultivation is the same as that followed in the plains, and the main obstacles to its extension are the lack of cattle and the laziness of the Kachins, who dislike the labour involved in ploughing. The Kaories, who have practised this form of cultivation for many years, were long accustomed to obtain the necessary buffaloes *gratis* from the villages in the plains, but this source of supply has been stopped and efforts are being made to persuade the Kachins to abandon their primitive and wasteful methods in favour of permanent cultivation. Whatever the method adopted, paddy grown at the higher altitudes yields but a poor crop for lack of sunshine, and it is proposed to experiment with other crops.

Taungya.

On the higher hills the jungle is cut as early as February and allowed to lie until the middle of April, when it is burned

The first rain mixes the ashes with the scanty soil, and the ground having been cleared the paddy or Indian corn (they are often grown together) is dibbled in holes about eight inches apart. On the same ground gourds, pumpkins, cucumbers, yams, or chillies are often sown either simultaneously or a few days later. On lower ground the jungle is not cut till April, as there is less chance of rain interfering with the firing process, but otherwise the methods are the same. It is necessary to weed the crop twice or thrice, and if the *taungya* is any distance from the village the cultivator lives on the spot. The crop is ready for reaping in October in the lower hills and in the following month at higher altitudes.

Cotton. Cotton is grown in the hills up to 2,500 feet. It is an indigenous species of good texture but short staple, and sells at about 32 lbs. for the rupee. It is usual to follow a cotton crop the next year with paddy.

Sessamum. Two varieties of sessamum are grown on the hills according to the altitude. It finds a ready sale at Rs. 3 a basket.

Opium. Opium is grown extensively on the higher hills, especially on the eastern slopes of the main range east of the Irrawaddy. It is cultivated by Kachins, Yawyins and Chinese, either in enclosures near their villages or in sheltered ravines within easy reach. The seed is sown late in October and the plant comes to maturity in March. The poppy-heads or capsules are gashed with a tiny rake, and the exuding juice is scraped off with a thin flat bamboo or a piece of iron and thence wiped off with coarse Chinese paper, a leaf, or an old rag. Practically the whole of the drug is locally consumed.

Experimental Garden. Since 1898 experiments have been carried out at Sinlumkaba with English fruits and vegetables. The latter have nearly all done well. Strawberries of very good quality are raised, but the crop is not abundant. The other fruits set, but for the most part fail to ripen for want of sunshine.

Agricultural Show. For the last few years an annual show of agricultural stock and produce has been annually held in March at Bhamo. Liberal prizes are offered and the coincidence of a Buddhist festival brings together people from many parts of the district. The exhibits have been of very unequal quality. The buffaloes are, as a rule, magnificent and the show of vegetables remarkably good, but the people take little pains to effect improvements, and it is hoped that the establishment of an agricultural department will stimulate their efforts in this direction.

Manure. Manure is used for paddy cultivation if it is readily

available, but enormous quantities of fertilising material are allowed to run to waste from the cattle-pens.

Irrigation.

In several places the cultivators have taken advantage of a convenient stream to irrigate their fields. The Namsiri, Tali and Paungnet *chaungs* thus protect a considerable area which oould be immensely increased by the adoption of scientific methods. A scheme for the utilisation of the water of the Paungnet stream is now under consideration. Only about one-sixth of the area under cultivation is at present irrigated. The dams erected by the villagers frequently burst at the critical moment and a great deal of water is allowed to run to waste owing to the faulty alignment of the canals and the conflicting interests of the cultivators. Wells are practically unknown as a means of irrigation, but an ingenious water-wheel is used on the Taping river for raising water to fields out of the reach of the river floods.

Economic condition of agriculturists.

Owing to the liability to floods and a somewhat capricious rainfall the success of the main crop is always doubtful, but there are many alternative occupations to which the cultivator readily turns, and even in the best seasons the district does not produce all the food it requires. Supplies of paddy are plentiful from down the river and the money for its purchase is obtained in a bad season by work in the forests. Bamboos are plentiful and find a ready market at the mouths of the streams on which they are floated to the main river. Forest operations on a large scale provide work for a large number of men, and labour is so scarce that an able-bodied cultivator has not far to look for employment.

The Lonchwan or Namwan valley is the granary of the Kachin Hills, and if a cart-road could be driven through the hills would provide the Irrawaddy plain also with cheap rice of excellent quality. The riverine villages depend almost entirely on the fisheries and the forests for a living and grow but little paddy except on *taungyas*.

It would require a series of bad seasons to reduce the district to anything like scarcity, and it is probable that temporary emigration after the sale of their cattle would enable the people to tide over the bad years. Hence no special chapter dealing with Famine is included.

Tenures.

The people are not tied to the villages by their interest in their holdings. The common form of tenure is merely a right to occupy during residence in the village, and culturable land is so plentiful that temporary emigration is attended with little hardship. Land so abandoned is redistributed by the headman and cannot be sold or mortgaged.

CHAPTER V.

FORESTS AND MINERALS.

Making no allowance for the 100 to 150 square miles annually cleared by the Kachins and others who practise shifting cultivation, it is estimated that almost 90 per cent. of the 4,146 square miles comprising the Bhamo district is covered with forest, the term 'forest' here including the *pônzos* or over-grown clearings of the *taungya* (hill-field) cutters and the scrub jungle found in the neighbourhood of the larger towns and villages. Of the total forest area rather less than 2,000 square miles is in the hills and the rest in the plains. Its flora has been shortly described in Chapter I. Area of forests.

The hill forests, owing to the southward spread of the Kachins, are by no means in their original condition. On the authority of Colonel Hannay of the Assam Light Infantry it is stated that in 1835 the Kachins extended as far south as the 24th degree of North latitude, *i.e.*, to within about 20 miles of the southern boundary of the Bhamo district.* Fifty years later 20½° was accepted as their southern limit.† During this period the Kachins had therefore migrated 3½° southward. The Bhamo district extends northward to latitude 24°52′. Allowing, then, that the southward march of the Kachins may have been much slower in the first than in the second half of the nineteenth century and that they replaced a tribe (the Palaungs) whose methods of cultivation are known to have been far less destructive, it may fairly be assumed that only four or five generations ago the Bhamo hills were clothed with an almost unbroken mass of virgin forest. The conditions today are very different. The Kachins who form the bulk of the population are no longer allowed to live by raiding their neighbours; their southward movement has been checked; and they have little else but their *yas* for their support. At the same time, their numbers have increased so largely that, although a small number have descended to the plains, they are already seriously pressed for room. Not only has almost all the virgin forest in areas suited to their methods of cultivation been cut, but the intervals between successive Hill forests.

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* Kachin Gazetteer, page 1; Anderson, page 55 (Hannay's journal was not published).

† Kachin Gazetteer, page 1.

cuttings are far too short to allow the forest to re-establish itself. The hills are therefore gradually becoming denuded of tree-growth, this denudation being, naturally, most marked towards the tops of the hills at an elevation of 4,000 feet and upwards where the population is densest and where *ya*-cutting first began. The rapidity with which the forest growth is destroyed varies considerably and would appear to depend partly on the methods of the *ya*-cutters and partly on the altitude. Thus, at 6,000 feet, where frosts, by withering the young growth in *pônzos*, render it highly inflammable, the Yawyins, who take no precautions against the spread of fire, have in a single cutting annihilated all treegrowth and turned the evergreen forests of the Lapyehka valley into a bracken-covered wilderness. That the destruction is of recent origin is proved by the numberless charred tree stems with which the hillsides are strewn. The Kachins, on the other hand, are much more careful in their methods. They recognise that to obtain good crops *taungyas* should be cut in tree forest. They therefore do not allow fires to spread more than can be helped (at any rate within their own jurisdictions), and to facilitate the protection of their *pônzos* from fire usually cut their *taungyas* in large blocks. In one thickly populated tract the seeds of *maibau* (Alnus nepalensis) are sown with the paddy, and a few of these trees are left here and there to propagate themselves with the help of the wind. The Kachins of these parts have taken advantage of the fact that *maibau* reproduces itself freely, penetrating even a dense growth of grass with ease and in three or four years forming a thicket. The destruction of tree-growth by the Kachin is therefore comparatively slow, but he is too lazy and unmethodical to make his protective measures fully effectual, and an enquiry has recently been held with the object of devising some method by which the denudation of the hills may be prevented. The result of *taungya* cultivation is that at higher elevations tree forests are being replaced by what may be termed hill savannahs, while lower down one frequently finds a growth of almost pure bamboo.

Forests of the plains and foot-hills.

In the plains the population is chiefly Shan-Burman, of whom a considerable proportion are *ya*-cutters. Those that are not *ya*-cutters live by permanent cultivation, and it is probable that all would cease shifting cultivation if they had the means to purchase buffaloes. Part of the change in the character of the foot-hills and plains forests may be attributed to the Shan-Burman *ya*-cutters, but the damage they have done is inconsiderable in comparison with that

wrought by the hill tribes, and the plains forests at the time of the British occupation of Upper Burma were probably in much the same condition as they were a century before. Since the annexation shifting cultivation in the plains has extended and considerable areas of forest have been destroyed or irretrievably damaged. In addition to this a trade in timbers, such as *ingyin* (Pentacme suavis), *in* (Dipterocarpus tuberculatus) and *kanyin* (D. lævis and alatus) sprang up, and many forests close to the river have been depleted of mature trees of these species. The demand for steamer fuel has also resulted in the forests near Bhamo and Shwegu, the two principal towns of the district, being almost ruined.

Administration of teak forests under British rule.

It will have been gathered from what has already been said that the teak forests in the plains and lower hills must have suffered severely at the hands of the *ya*-cutters, who naturally shewed no more respect for the teak than for any other tree. The teak forests, when we came into possession of them, were consequently already mere wrecks, and only now, after twenty years of British rule, is the Kachin beginning to realize that the teak is a "royal" tree. On the annexation of Upper Burma the teak forests of the Bhamo district were being worked by Maung Mun Taw and Maung Bauk under a lease from the Burmese King. There was apparently little or no trade in other timbers. The lease granted by the Burmese Government was continued in a modified form after the annexation, the principal clause in the new agreement providing that all girdling should be carried out by the Forest Department. But Maung Mun Taw died in 1889 before the new agreement was signed, and in 1890 the contract was forfeited owing to the bankruptcy of Maung Bauk. Departmental working of teak was then begun on the east of the river, the forests on the west being exploited temporarily by a purchase-contractor, Hadji Mahomed, who formerly held a lease of the Mogaung forests. The forests had already been declared subject to the Upper Burma Forest Regulation which came into force in August 1887. Prior to this, revenue on forest produce was collected under the general orders of the Chief Commissioner, which had been given the force of law by the Upper Burma Laws Act. There was consequently no delay in the endeavour to bring the forests under systematic management. Forest Officers, however, were scarce, and it was not until November 1901 that the Myitkyina district, which had previously formed part of the Bhamo Forest Division, was made into a separate

charge. The Divisional Forest Officer's hands were naturally more than full. Moreover, for several years following the annexation there was considerable unrest. Until 1891, therefore, little could be done other than the examination of forests with a view to reservation. The first reserve of 38 square miles was formed in 1893, and in the present year (1908) the area of reserved forest aggregates 317 square miles, or only 6·7 per cent. of the total area of a district of which nine-tenths are jungle. All the reserves were made in the interests of teak, though some of them are so poor and had been so much spoiled by the *taungya*-cutter that they would probably have been deemed scarcely worthy of notice in richer districts. In 1895 Hadji Mahomed's purchase-contract expired and Government began to work all the teak forests through the direct agency of the Forest Department. From a revenue point of view the change was beneficial, but the supervision of a horde of petty contractors took up a great deal of time which might have been employed more profitably in other directions. Moreover, the work of these petty contractors was unsatisfactory, and there is everywhere in the forest evidence that they only extracted the class of timber which paid them best. The forest staff was inadequate to supervise them effectively.

Purchase-contracts for teak.

Partly, therefore, on this account, and partly in order to encourage private enterprise, a purchase-contract for the working of the teak forests on the west of the Irrawaddy was, in June 1905, concluded with Messrs. Steel Brothers, Limited, a powerful Rangoon firm of rice millers, which had a few years before entered the timber trade. In November 1906 a similar agreement was signed for the remainder of the Bhamo Forest Division. The main provisions of the contracts are that the Forest Department are to girdle a minimum number of first class trees yearly for a fixed period and that the firm undertakes to fell and extract "without selection all the girdled teak and all dead teak trees of such dimensions as will yield marketable timber above three feet in girth measured in the middle of the log." There are also clauses relative to the protection from damage by fire or otherwise of the forest and of the timber cut and to the sale of timber in Mandalay to meet local requirements. Royalty is payable on the timber extracted at the rate of Rs. 25 per ton of 50 cubic feet on logs measuring 30 cubic feet or over and Rs. 7 per ton on logs measuring under 30 cubic feet or on logs of any dimensions which may be classed by the Forest Department as "refuse." To

prevent timber being cut in such a way as to render it dutiable at the lower rate the contract provides that the logs must be cut of the largest possible dimensions. The firm, however, has the option of refusing to pay the royalty, in which case the timber is taken over by Government and sold, the firm taking half the proceeds. At the present time Messrs. Steel Brothers employ, directly or indirectly, about 2,000 native contractors and workmen, 180 elephants, and some 1,800 buffaloes, all under the direction of a large staff of European assistants. Under this system the forests are being worked less wastefully and much more thoroughly than had before been possible, though the profits to Government per ton of teak extracted are not so great as under the departmental system of working. The present contracts expire at the close of 1910, but their renewal on much the same terms as before for a period, probably, of fifteen years is now under consideration.

Exploitation of forests for species other than teak.

In the meantime, while the whole of the energies of the forest staff were confined to the protection and exploitation of the teak areas, the destruction of the forest in the hills and the increasing importance of such timbers as *ingyin*, *in*, and *kanyin* had been largely overlooked. Little has been done in the hills beyond the issue of orders prohibiting the burning of *taungyas* in certain small local areas and the clearing of the jungle in close proximity to Government roads. As regards the protection of the more valuable unreserved timbers found outside reserved forests practically nothing beyond a somewhat lenient administration of the forest rules has been done save the concentration of the areas open to timber traders and the permanent closure of a tract of country east of Bhamo to the extraction of fuel for supply to the steamers of the Irrawaddy Flotilla Company and for other trade purposes. It was hoped that the concentration of trade areas would facilitate supervision and that their periodic closure would give them a chance to recover from excessive exploitation. It has facilitated supervision to the extent that it has shewn that the working of forests by impecunious Burmans, who are compelled to adopt a hard-and-fast system of logging owing to an antiquated system of timber measurement (the *atha* system of King Bodaw), is in the highest degree wasteful and unsatisfactory. It has also shewn that the timber and fuel industries should not be divorced from one another, the latter being the natural complement of the former. The trader, however, naturally objects to the concentration system owing to the dislocation of arrangements which arises whenever the open

areas are changed. The closure of a forest is also usually followed by a chorus of disapproval from the surrounding population. who complain that their livelihood is being taken away, the Burman strongly disliking employment which takes him far from his home.

Vorking-lans. Steps are now being taken to systematise the exploitation, protection, and improvement of the teak forests. A scheme for the girdling of teak, applicable chiefly to unreserved forests, has been sanctioned, and this will be supplemented by working-plans for the reserves. In 1908-09 the Mosit reserve of 127 square miles is to be accurately surveyed, and in the following year statistics for the working-plan (the first in the district) will be collected. The plan for the Mosit reserve will probably be followed by another for the Nampa and Setkala reserves, a compact block of forest 103 square miles in extent, maps of which have already been published. The plans will prescribe the order and extent of the girdlings, the operations to be undertaken for the preservation and improvement of the growing stock, and the opening up of communications. As regards fuel it is proposed that in future its extraction should be under the control of the Forest Department. It is also proposed to introduce the purchase-contract system of working unreserved timbers, while several areas containing valuable supplies of the timbers in greatest local demand have, thanks to the relief afforded by the cessation of the departmental working of teak, already been examined and selected as suitable for reservation.

Preserva-ion of ill orests. But perhaps the most important step that has been taken is the recent examination by specially deputed Civil and Forest Officers of the hill forests with a view to their preservation for climatic reasons. It was feared that their destruction by the *ya*-cutters might lead to landslips and floods, followed by serious injury to cultivation in the plains. The orders of the Government were, shortly, to select for reservation compact blocks of forest at the sources of the main streams, but not to disturb old established villages. As a result of this enquiry four reserves are under settlement.

Adminis-rative arrange-ments. For administrative purposes it is found convenient to make forest divisions conterminous with drainage areas. The Bhamo Forest Division therefore includes, besides the Bhamo Civil District, those portions of the Sinkan and Kaukkwè drainages which fall within the Momeik State and Katha district respectively. It is estimated that these two areas amount roughly to 580 square miles, so that the total area of the Bhamo Forest Division is 4,726 square miles. The

whole of this is in charge of a Divisional Forest Officer, who usually belongs to the Imperial Forest Service. The southern portion of the forest division, comprising most of the Shwegu Civil subdivision and the portion of the Kaukkwè drainage which falls within the Katha district, forms the Shwegu Forest subdivision, which is usually in charge of an Assistant or Extra Assistant Conservator of Forests, with headquarters at Shwegu. The remainder of the division, including the whole of the Sinkan drainage, though spoken of as the Bhamo subdivision, is under the direct control of the Divisional Officer assisted by a Burman officer of the Provincial Forest Service. Each subdivision is divided into four ranges, which are again divided into beats varying in size and number according to the work to be done in them. In 1908 the Forest Subordinate staff consisted of five Rangers, eight Deputy Rangers, nineteen Foresters and thirty-two Forest Guards.

Forest Reserve

The following table gives particulars of the reserved forests in the division :—

District or State.	Forest Sub-division.	Name of Reserve.	Area in square miles.	Date of formation.	Remarks.
Bhamo ...	Shwegu	Setkala ...	103	1st March 1893 ...	Two reserves in one block.
		Nampa ...		1st April 1894 ...	
		Mosit ...	127	1st January 1897 ...	Includes an addition of 7 square miles on 31st March 1907.
	Bhamo ...	Simaw ...	15	1st November 1897.	
		Nanhan ...	8	1st November 1897.	
		Munsin ...	8	1st November 1897.	
		Bumrawng	4	1st November 1897.	
	Shwegu	Shwegu ...	22	1st April 1900.	
	Bhamo ...	Momauk	1	1st September 1903.	
Bhamo and Momeik.	Bhamo ...	Si-u ...	8	1st November 1904.	
Bhamo ...	Bhamo ...	Bumsawn	3	20th January 1905.	One square mile in Momeik State.
		Teinthaw	5	28th January 1905.	
		Namkao ...	1	4th February 1905.	
		Namaik ...	3	4th February 1905.	
		Mainghein	10	1st November 1906.	
Momeik	......	Mohlaing	19	15th November 1907.	
	Total in square miles ...		337		

The reserves are situated entirely in the plains and lower hills, the greatest elevation being about 2,500 feet in the Mosit reserve. Three-quarters of the total area lies in the Shwegu subdivision, but of the 300 square miles which already have been or shortly will be proposed for reservation almost two-thirds are in the Bhamo subdivision. With one or two exceptions little trouble has been experienced at settlement, though it was necessary to overcome the proprietary notions of the Kachins. In the Nampa reserve 14 square miles were set aside for *taungya* cutting, but in other cases sufficient land was found available outside the area reserved. Rights and privileges to extract bamboos and minor forest produce, to graze cattle, to fish and to snare small game birds and animals have been freely granted by Settlement Officers. In no case are these rights and privileges a burden on the forest, and in very few cases do villagers extract even half as much as the settlement allows.

That the reserves may be known to the surrounding population their boundaries are demarcated by numbered posts and mounds, by painted boards hung on trees, and by a line of blazed trees. Rather more than 400 miles of boundary are so demarcated.

Forest communications.

To facilitate inspection bridle-paths are being constructed. The total length of these paths in the Bhamo district in 1908 exceeded 100 miles, of which considerable portions are embanked and bridged. The necessity for cart-roads for the extraction of timber and other forest produce has not yet arisen, mainly because teak is extracted almost entirely by water.

Rest-houses.

The forest division is also well supplied with forest rest-houses, of which there are already twenty-three, as shewn in the margin, while new ones are being built at the rate of about two annually. The rest-houses are built of teak generally, with bamboo mat walls, and a thatch or shingle roof, and vary in cost from Rs. 750 to Rs. 3,000. Most of them are roughly furnished, but in this respect are inferior to the inspection bungalows of the Public

List of Forest Rest-houses.

Palawng Katawng (on road to Sinlum).	
Teinthaw (on Molè River).	
Thapanbin (on Irrawaddy).	
Kanni ...	In Sinkan valley.
Si-u ...	In Sinkan valley.
Tônkwa ..	In Sinkan valley.
Malin ...	In Sinkan valley.
Kashin ...	In Sinkan valley.
Maingkin ...	In Sinkan valley.
Mainghein	In Sinkan valley.
Hinmaung	Nampa reserve.
Maiksan ...	Nampa reserve.
Tawlan ...	Nampa reserve.
Naungletgyi	Shwegu subdivision east of Irrawaddy.
Thazi ...	Shwegu subdivision east of Irrawaddy.
Hnôkcho ...	Shwegu subdivision east of Irrawaddy.
Sithaung ..	Shwegu subdivision east of Irrawaddy.

Nampu ...	Mosit valley.
Lana ...	Mosit valley.
Si-ngan ...	Mosit valley.
Sègyi (in Kaukkwè valley).	
Ôkchi ...	On Kaukkwè river.
Thayetta ...	On Kaukkwè river.

Works Department, as they are frequently in very remote localities where it is impossible to procure a durwan to look after them. No fees are levied at any of them. In addition to the forest rest-houses quarters have also been built for most of the Rangers and Deputy Rangers who are stationed away from Bhamo and Shwegu.

Forest Offences

The people of the district are on the whole very law-abiding. There is, therefore, no great difficulty in the enforcement of the Forest Act and rules, except in the case of the *Kachins*, who err more from ignorance and subservience to long-established custom than from malice. An average of about seventy-five forest offences are dealt with yearly, but many of these are of a petty nature in which a warning or the payment of a small sum as compensation is considered sufficient. Those that give the most trouble and are of the most importance are connected with the extraction of timber by Burman traders. It can, however, hardly be denied that if it had been possible to exercise closer supervision when the timber trade of the district was in its infancy many of the malpractices which are now so common would not have been thought of. Cases in which Kachins are concerned are dealt with by Civil Officers, who are specially empowered under the Forest Act to compound offences. Other cases are usually settled by the Divisional Forest Officer, only the most serious being taken into Court.

Protection of forests.

The protection of the reserved forests from fire has never presented any great difficulties, the district being a moist one and the hot season short. For several years the percentage of success has exceeded ninety-nine. The cost of protection is also very much lower than in most, if not all other districts of Burma, varying from Rs. 18 to Rs. 23 per square mile according to the season. Fire-protection of the reserves was first started in 1895-96 with the Nampa and Setkala reserves of 103 square miles. In 1897-98 the Mosit reserve of about 120 square miles was added. From that date onwards all new reserves were brought under protection as soon as they were formed, until in 1906-07 the area under protection amounted to about 307 square miles. For several years, however, doubts have existed as to the efficacy of fire-protection. It had never been denied that the keeping out of fire must prevent a large amount of damage to standing timber and the annual burning

back of countless seedlings. The ill-effects of fire on the soil had also not escaped notice. But the immediate result of fire-protection is the springing up of a dense undergrowth which the teak seedling is unable to penetrate. Persistence in fire-protection unaccompanied by operations to assist the young growth of teak would, therefore, inevitably lead to the extermination of teak altogether. Unfortunately neither the labour, the money, nor the staff is available to carry out the necessary work on a sufficiently large scale. For these reasons, therefore, and partly because the protection of certain forests even under the most favourable circumstances, was economically unsound, the area under protection is being restricted. Fire-protection of the Namkao, Shwegu, Bumrawng and part of the Nanban reserves has been abandoned for economic reasons; the newly constituted Mainghein and Mohlaing reserves will probably remain unprotected until a definite line of action has been decided on; while the exclusion of other forests from protection is merely postponed until they can be carefully examined. The protection of the forests from natural causes of damage is carried out so far as the staff and labour available permit. Climbers are cut and *nyaungpats*, *i.e.*, trees attacked by epiphytic ficus, are removed. The area that can be worked over yearly is, however, discouragingly small, seldom exceeding 3 per cent. of the total area of reserved forests. No means have yet been devised for dealing with the attacks of the "bee-hole" borer (*Duomitus ceramicus*), which is found chiefly on the left bank of the Irrawaddy.

Improvement of forests.

The improvement as well as the protection of the forests has also been borne in mind, and much more could have been done if it were not for the rooted objection which the people have to most Forest Department work, even though high wages are offered. There are not, as in Lower Burma, forest villages, depending almost solely on the forest for their support. There are, therefore, but few plantations, their area in 1905 amounting to only 55 acres, all teak. Improvement of the growing stock is being mainly secured by the cutting back of malformed or diseased teak stems so as to secure healthy coppice shoots and by the freeing of the cover over promising seedlings and saplings. The protection afforded by the cutting of climbers and the felling of *nyaungpats* also leads to general improvement in the condition of the forest. Cultural operations, such as the dibbling in of teak seed, have been carried out on a small scale, but with very little success.

Efforts to introduce into the forest new species have so far been confined to camphor (Cinnamonum camphora), Para rubber (Hevea braziliensis), *shisham* (Dalbergia Sissoo), Andamans *padauk* (Pterocarpus dalbergioides), and an American species (Catalpa speciosa). *Shisham* (or sissu) was a failure; camphor is doing well in Bhamo and experimental plantations are being made at elevations of 3,000 and 6,000 feet; Para rubber grows rapidly, but seems to yield little or no latex. Andamans *padauk* and *Catalpa speciosa* have only been sown recently and it is too early to foretell what the results will be. *Catalpa speciosa* is said to be a tree of extraodinarily rapid growth, and if it can be successfully grown may be of great use in reafforesting some of the denuded hillsides in Kachin territory. Experimental trees.

With the exception of teak the people are allowed to take from unclassed forests practically all that they require for domestic purposes without restriction. The main trade products of the forests are timber, bamboos and canes, the principal timbers being teak, *ingyin*, *in*, *kanyin*, *letpan* and *didu*. Forest products.

Teak is common in almost all parts of the district up to an elevation of about 2,500 feet, but it is irregularly distributed and frequently of poor quality. Excellent timber, however, is found in the Hlapè and Nanlaw drainages of the Sinkan valley and southwards to Mainghein. The Setkala timber also is good, and the teak obtained from the right bank of Irrawaddy a few miles above Bhamo is said to have made a name for itself in the time of the Burmese Kings. The largest log of which a record has been kept is one, 37 feet long and 13′2″ middle girth (approximately eight tons), now (1908) in course of extraction from the Naunghu drainage of the Sinkan valley. The largest quantity of teak extracted in any one year was 17,785 tons in 1907-08. The maximum revenue on teak was Rs. 7,26,356 in 1902-03. When the reserves are being fully exploited under the provision of working-plans it is estimated that the annual girdlings will not exceed 3,000 trees. On the whole the reproduction of teak is good. Teak.

Excluding *padauk*, which does not occur in workable quantities, *ingyin* is, next to teak, the most valuable tree in the district. The principal *ingyin* forests are found within a radius of ten miles of Mankin (or Mantha) on the Bhamo-Sikaw road. Formerly *ingyin* was plentiful near Bhamo, but most of it has now been worked out. Throughout the plains it is fairly common in dry forest. In reserves it is found chiefly in the Shwegu reserve and to a less extent in *Ingyin.*

the Setkala and the south of the Nanhan reserve. The outturn of and revenue on *ingyin* for the last three years have averaged about 1,250 tons and Rs. 4,300 respectively.

In. *In* is the commonest of the "trade" timbers, occurring almost everywhere in the dry open forests of the plains. Except where the soil is very poor it attains to good dimensions and everywhere reproduces itself freely. Speaking generally, the *in* of the southern is superior to that of the northern half of the district. It is plentiful in the Shwegu reserve.

Kanyin. *Kanyin*, in point of quantity, comes between *in* and *ingyin*. As regards value it is classed with *in*, being hardly differentiated from it. It is found chiefly in the Munsin and Nampa reserves, in the forests round Mansi and on the right bank of the Irrawaddy between the Kaukkwè and Mosit *chaungs*, but it is common in many other parts of the district as well. It attains to a great height and girth, is of remarkably regular growth and frequently has a perfectly straight bole seventy feet or more to the first branch. Its immense size is well seen from the second defile of the Irrawaddy on the banks of which it towers above all other vegetation. Though frequently found with *in*, unlike *in*, *kanyin* can flourish in bamboo forest which is productive of good teak.

Letpan and didu. *Letpan* and *didu* (the silk-cotton trees) also reach large dimensions. They are found mainly in grass lands on the banks of the main streams and are extracted in small quantities for making boats and coffins and for other purposes where durability is of no importance.

Other trade timbers. Other species which are extracted in small quantities for trade purposes are *yamanè* (Gmelina arborea), *hnaw* (Adina cordifolia), *ma-u* (Anthocephalus cadamba), *ma-u lettanshe* (Duabanga sonneratioides) and *ye-nè* (Salix tetrasperma).

During the three years ending with 1907-08 the outturn by traders of timbers other than teak and *ingyin* has averaged about 9,000 tons, and the royalty thereon about Rs. 10,000.

Bamboo and canes. The outturn of bamboos and canes for the past five years has averaged about 47 and 39 lakhs respectively, and the revenue about Rs. 19,000. The bamboos are mainly used for the transport to Mandalay of such timbers as *in*, *ingyin* and *kanyin*, which will not float, for the transport of paddy, and in the fisheries. Large quantities are also sold for building purposes. Canes are used chiefly in house-building and in fisheries, large consignments being sent to Lower Burma

for the latter purpose. No account is kept of the number of bamboos and canes used locally, revenue free. Negotiations are now (1908) in progress regarding the supply of bamboos duty free for a period of twenty-one years to a paper pulp factory which it is proposed to set up in Katha. From twenty to thirty millions of bamboos will be required annually, of which the greater proportion will probably come from the Bhamo district.

Minor forest produce.

The trade in minor forest products is small. A few hundred rupees are realised annually on *indwè* and *pwènyet*. Lac, honey and wax from China pass through Bhamo in large quantities, the highest figures being 37,972, 19,550, and 1,550 viss respectively. An endeavour is now being made to cultivate lac in the district on Schleichera trijuga (*gyo*), a tree which is very common in the Shwegu subdivision and on which the lac insect is known to thrive. The root bark of *mahaga* (Linostoma decandrum) and *semin* (Millettia pachycarpa) is extracted in considerable quantities for poisoning or stupefying fish, the extract of the former being particularly potent. No royalty has hitherto been paid on them. The present (1908) market price of *mahaga* bark is Rs. 20 a hundred viss.

Net revenue.

The net forest revenue of the division was Rs. 1,50,745 in 1890-91, Rs. 3,73,300 in 1900-01 and Rs. 4,31,059 in the year 1907-08.

The cost of administration in the same period has risen from Rs. 24,027 to Rs. 1,02,477. The maximum surplus was Rs. 5,53,303 in 1903-04.

Minerals.

The Ponsi silver mines referred to by Anderson * are no longer worked. Gold is obtained in paying quantities in the Molè river, where a prospecting company has been at work for two years. It is also found in minute quantities in other hill streams whence it is laboriously extracted by the Kachins. A little jade is found on the west of the Irrawaddy near the Myitkyina border. Spinels have been found in considerable quantities in the Sinkan valley, but no rubies. The Public Works Department obtains its requirements of road metal and lime from the rocks of the second defile, and bricks are also made locally.

A hot spring, very heavily impregnated with sulphur, has been found near Momouk, at the foot of the eastern hills. The mineral resources of the district have not been scientifically examined.

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* Anderson, page 265.

CHAPTER VI.

OCCUPATIONS AND TRADE.

OCCUPATIONS.—Agricultural pursuits; Arts and Industries; Pottery manufacture; Cotton-weaving; Fishing; Timber-dragging and bamboo trade; Basket-making among the Kachins; Iron and silver work. TRADES.

Occupations. The greater part of the population of the Bhamo district is engaged in agriculture. Along the banks of the Irrawaddy, where culturable land is scarce, fishing takes its place as the staple industry. The felling and dragging of timber and the cutting of bamboos supply a livelihood to the dwellers in or near the forests, and a small town population (chiefly natives of India and Chinamen) are engaged in petty trade.

Agricultural pursuits. The proportion of the population which does not depend directly upon agricultural or pastoral pursuits for its daily bread is insignificant. The method of agriculture presents no novelties. After the first few showers of rain all grass and jungle growth is cut down with a *dah*, and the soil when thoroughly saturated is ploughed and subsequently harrowed. The nursery beds are first sown with paddy, and when the plants are a foot high they are transplanted into the fields, which should then, if the early rains are propitious, be ready to receive them. These operations extend from June to August. The crop, usually the long-lived variety of paddy, or *kaukkyi*, is reaped in December and January. Buffaloes only are used for ploughing, and a single animal is usually employed. Cattle are not bred in this district but are imported from the neighbouring Shan States, the price of an ordinary plough buffalo being Rs. 60—70. Paddy is practically the only grain sown, but there are small areas of sessamum, potatoes, plantains and peas. Two kinds of paddy are grown, *kaukkyi* (wet-weather paddy) and *mayin* (dry-weather paddy). There is comparatively little of the latter, and the grain, which is coarse, is mainly used for feeding animals. The methods of hill cultivation have been described in Chapter IV.

Pottery. At Shwegu a few of the poorer households manufacture earthen utensils from locally-obtained clay. These consist of water chatties, goblets, cups, and saucers, and find a ready sale both in the district and in riverine villages.

Cotton-weaving. The cotton-weaving industry consists mainly in the manufacture of *longyis* (men's loin cloths) and *htameins* (women's skirts) for every-day use. Under most houses is a

rough hand-loom at which the young women of the family preside. The materials come from Manchester or Bombay and are dyed in the village. The clatter of the looms as the threads are pushed home is often the only sound that disturbs the midday calm of the village. The Kachins use their own cotton, which is picked and cleaned by the women and then spun into a coarse yarn. The latter process provides the women with something to distract their thoughts as they toil up the hills with a heavy load slung from their foreheads and a baby as a make-weight. The yarn is washed, combed and dyed red or blue, and is then coated with a sort of glue and dried. The rough cloth produced by these primitive looms is by no means inartistic in design, and the embroidery, particularly on the Kachin bags or haversacks, is often very delicate and attractive. The bags are further ornamented with brightly-coloured strings of braid, beads, reed tassels and, among some tribes, little silver bells and tags. The Marus work in the fibre of a species of orchid which adds a bright touch of gold to the embroidery.

Fishing.

In one or two of the larger lakes formed by the overflow of the Irrawaddy fishing is conducted on an extensive scale. The fish run up in September and October in large numbers, and when the river begins to fall the outlet of the fishery is blocked with a *yin*, or screen of bamboos. This erection has to be made of considerable strength to withstand, not only the rush of the water, but the frenzied onslaughter of the fish which make for the freedom of the river. If the season is favourable the profits are very heavy, but an unexpected rise will often break the screen, and on the other hand the fishermen sometimes postpone the erection of the weir in anticipation of a rise which does not occur; in either case the fish escape in thousands. At these fisheries the bulk of the fish is converted into *ngapi*, or fish paste, on the spot, the process being recognizable at a distance. The survivors of the attacks on the *yin* are usually taken with the assistance of *mahaga*, a poisonous root, which stupefies the fish and brings them to the surface. In the smaller fisheries it is often impracticable or useless to close the outlets. While the water is deep the fish are caught in *hmyons* (cylindrical traps) placed in the tall grass where the current is strong, and when the water has fallen the fish are driven into the shallows and caught in hand-nets or baskets. In the main river the fish are caught with implements known as *setkawa* or *yagwin*. The latter is used in swift water and is employed when the fish are running up in large numbers. The net lies well below the surface and is hauled up as the

fish pass. The *setkawa* is used in still pools and is generally ground-baited. The fish are for the most part varieties of the carp. The *mahseer* is frequently taken on a rod in the Upper Irrawaddy and in the Molè and other tributaries. The Kachins in blocking a stream leave a small opening with an inclined platform on to which the fish are thrown by the force of the current.

Timber-dragging and the bamboo trade.

The introduction of the purchase-contract system has given a great impetus to the timber trade and large numbers of men are engaged felling the trees and dragging them to the floating streams. For the latter purpose elephants and buffaloes are used, some of the latter being magnificent animals. A very large trade is also done in bamboos, which occur in almost inexhaustible quantities and find a ready sale when they reach the main river.

Basket-making among the Kachins.

The Kachin manufacture a number of different kinds of basket and tray, some of which are of delicate workmanship and of some artistic value. The materials are cane and bamboo.

Iron and silver work.

As in most districts, a few silversmiths ply a lucrative trade. Their work presents no distinctive features but is of very fair quality. A considerable quantity of silverware is also imported from the Shan States. Here and there, both in the plains and in the hills, a blacksmith is to be found capable of making the ordinary household *dah* and other simple implements. Every cold weather there is an influx of blacksmiths from the Shan-Chinese States of Hosa and Lasa, who travel from place to place with the materials and implements of their trade and earn a comfortable subsistence.

Trade.

The district has nothing to export except timber and a little surplus paddy. Such of the simple needs of the people as they cannot provide themselves are readily obtained from the weekly cargo steamer from Mandalay. The importance of Bhamo as a trade centre has always been due to its position as a distributing centre. Here the traders from China and the Shan States unload their caravans of silk and hides or orpiment, the bulk of which is shipped to Mandalay by the steamers of the Irrawaddy Flotilla Company; here also the cargoes of salt, cotton, twist, piece-goods and oil are made up into convenient loads for the returning caravans. To foster the export trade a rebate of seven-eighths of the customs duty levied in Rangoon is allowed on goods consigned to China. For this purpose a custom-house was established at Bhamo in December 1904. The goods are here repacked, and the

rebate is paid on production of a pass countersigned by the Customs officials at Têngyüeh.

Trade in Burmese times was continually interrupted and it is impossible to estimate its value. But after the appointment of a British Resident at Bhamo in 1869 there was a revival, and in 1874 it was estimated that the Flotilla Company carried 30 lakhs worth of merchandise to and from Bhamo.* With the suppression of the turbulent Kachins and the abolition of irregular and oppressive tolls across the frontier the chief obstacles to trade have been removed. There remains, however, the difficulty that, opium being contraband, Yünnan has little to export in exchange for her imports. The mineral wealth of the province is probably considerable, but it is almost unexploited and more than half the value of the consignments to Bhamo consists of cash. The imports of hides could probably be much increased were it not that the methods of packing spoil them. The importation of salt into China is forbidden by treaty, but the prohibition is only spasmodically enforced. Smuggled opium goes but a short way towards redressing the balance of trade, and it is difficult to say what can be done towards inducing a more healthy condition of exchange. Assuming that the goods carried by the Flotilla Company in 1874 represented the entire trade with China and the Shan States, its volume had more than doubled thirty years later when (in 1903-04) imports were valued at 29 lakhs (specie 18 lakhs) and exports at 39 lakhs. The aggregate sums paid as rebate in the three years following the establishment of the bonded warehouse were Rs. 9,717, Rs. 12,314 and Rs. 13,333, and the effect of the concession has been still further to emphasise the disproportion between imports and exports, as the following figures will show. They refer only to the trade with China:—

	1905-06.	1906-07.	1907-08.
	Rs.	Rs.	Rs.
1. Imports, including treasure ...	29,38,377	31,09,985	32,97,317
Treasure	16,71,527	17,37,162	19,27,849
2. Exports, including treasure ...	33,63,655	38,13,076	42,02,931
Treasure	2,56,164	3,99,625	3,05,890

* Imperial Gazetteer of India, Vol. VIII, page 47.

Hides, orpiment and raw silk form the bulk of the goods imported.

Cotton twist and yarn (mainly of Indian manufacture) with raw cotton and piece-goods (European) comprise considerably more than half the exports.

CHAPTER VII.

MEANS OF COMMUNICATION.

It may be said that before the Annexation, with the exception of the natural waterways and the three main trade-routes to China, communications did not exist in the district. The trade-routes, though the hill gradients were very steep, were open to pack-animals, and the chief difficulties of Major Sladen's mission in 1868 were not connected with the physical obstacles. No doubt during the periods when trade was interrupted by disturbances the roads became overgrown and difficult and they followed, as Kachin tracks to this day follow, the most formidable spurs and ridges regardless of gradient. The ferocity of Kachin domination accounts for the almost entire absence of inter-village roads in the plains, and since the restoration of order and the subjection of the hillmen to authority, nearly every village is connected with its neighbour by a road passable by carts throughout the greater part of the year and only interrupted by floods during the rains, which render the rivers unfordable and transform the lower-lying country into a dreary swamp. The bridging of streams and *nullahs* and heavy cuttings to improve gradients in the hills constitute the most expensive items in road construction in the district.

Progress under British rule.

During the first ten years after the annexation the bulk of the money available for expenditure in the district was of necessity earmarked for the construction of buildings and military works. Until 1890 nothing was done towards the improvement of roads except the clearing of existing tracks in and around Bhamo; and it was not till 1892 that any considerable outside work was undertaken. In that year a mule-track was constructed to Hantôn on the old Embassy route at a cost of Rs. 10,000. Sikaw was connected with Sawadai on the Irrawaddy in 1894, and over a quarter of a lakh of rupees were expended in metalling the station roads two years later. Between 1893 and 1897 several abandoned tracks were opened up and

improved. The villages in the Sinkhan valley were given a fair-weather road to Sinkhan village at its mouth, and communication was restored between Bhamo and the riverside hamlets as far north as Lèma.

Until 1900 no money was spent on hill-tracks except the Hantôn road and the mule-track connecting Myothit with the frontier post of Nampaung.

The four years—1900 to 1904—were a period of great activity. The delimitation of the Chinese frontier made it possible, and the establishment of a line of frontier posts made it necessary, to construct a series of roads connecting the new posts with Bhamo and with each other. Between 1900 and 1902 the roads from Bhamo to Lweje and Panghkham were completed, the hill portions being for the most part aligned by Civil Officers and constructed by Kachins, almost without professional assistance. Sikaw, in the Sinkhan valley, was connected with headquarters in 1901, and in 1904 over half a lakh of rupees were spent in the construction of lateral roads between the outposts. Two years later the Chinese frontier road along the left bank of the Taping was undertaken, the Yünnan Government contributing to the cost. It is metalled for 17½ miles, and for 13 miles further it is open to cart traffic. From Kulonghka 21 miles of mule-track lead to the frontier, and the alignment of the road was carried through to the Manwaing plain, a distance of 79 miles from Bhamo. The cost of this road was about 3¼ lakhs of rupees. At the present time the district has 31½ miles of metalled and 100 miles of unmetalled cart-roads and 469 miles of bridle-roads. All the cart-roads are open throughout the year with the exception of the sections between Bhamo and Sawadi and Nanhlaing, which are flooded during the rains.

Twenty-nine bungalows have been provided at convenient stages on the main roads, and Bhamo and Sinlumkaba have circuit-houses in addition to dâk bungalows. There are also many forest bungalows at various out-of-the-way places in the district. (*See* Chapter V.) Bungalows.

The construction of the new trade-route along the left bank of the Taping river and the establishment of outposts along the frontier made it necessary to bridge the Taping river in 1906. The suspension bridge, which is commanded by a blockhouse, was completed in that year at a cost of Rs. 20,000. A similar, though shorter, bridge spans the Molè river at Kadôn and establishes connection with the most northerly outpost at Nalôn. The Sawaddi and Mansi roads are carried over the Namsiri *chaung* on timber bridges Bridges.

which are constantly liable to damage by this rapidly rising river. The remainder of the bridges in the district are small timber structures requiring constant renewal, but the Sinlum-Lweje road boasts the distinction of possessing the first reinforced concrete arch bridge in Burma, which was completed in 1908.

Waterways. The Irrawaddy is the highway of the district, and from its position on the great river Bhamo has derived its importance. It may almost be said that if the Shweli had been navigable from Namkham to its mouth as it is at Namkham itself, Bhamo would never have been much more than a fishing village until the introduction of steamer traffic. It is accessible to large steamers throughout the year, though the shifting of the channels when the water falls at the end of the rains makes navigation very difficult even for the shallow draft vessels of the Irrawaddy Flotilla Company. Small launches pass through the upper defile without difficulty from November to May, but during the monsoon even small country boats have to be towed through the heavier water.

Two large steamers ply weekly between Mandalay and Bhamo, the express steamer doing the journey in less than three days, while the cargo steamer, towing a large flat alongside, which is to the riverine villages what the Army and Navy stores are to the suburban housekeeper, dispenses biscuits and candles, hardware and kerosine oil, fancy silks and false hair to such as can afford these luxuries, and spreads its profitable voyage over five days.

A small ferry steamer connects Bhamo daily with the rail head at Katha, and, if the moon shines and the channels are safe, gets through in a day.

The volume of trade is too small to tempt the Company to exploit the Taping and navigation would be extremely precarious. Small Government launches have penetrated as far as Myothit (32 miles), where the river emerges from the hills, but the needs of the villages are supplied and the paddy of the Taping valley (which has some local reputation for excellence) is exported by means of large country boats. This form of transport also suffices for the needs of the scattered villages along the Molè river, and the weary voyage of 117 miles up this tortuous stream to Nalôn is a profitable enterprise. The Sinkhan and Kaukkwè rivers are also navigable by country boats for some 30 miles, but the smaller streams, the Thein-lin, Namsiri and Moyu, are only open to traffic in the rains and only for short distances. An interesting feature of river life is the gradual displacement of the "dug out" canoe by the Chittagonian or Chinese *sampan*,

and the steady procession of timber and bamboo rafts is evidence of the ease with which an agricultural people can face the calamities of drought or cattle-disease.

CHAPTER VIII.

FAMINE.

For reasons noted at the end of Chapter IV no special remarks are called for under this head.

CHAPTER IX.

ADMINISTRATION, GENERAL AND JUDICIAL, PUBLIC WORKS, ETC.

At the annexation the Deputy Commissioner was assisted in the Civil Administration of the district by the old officials of the Burmese Government. There was a *Wundauk* at Bhamo and *Myothugyis* at Shwegu, Thinbawin and elsewhere. The *Wundauk* pleaded illness at an early stage and retired. The Shwegu *Myothugyi* quickly proved himself undesirable, and Maung Pe, who had been *Nakan* at Bhamo, was appointed Myoôk of Shwegu and Mohnyin, while ex-officials of the Burmese Government were also appointed to be Myoôks of Bhamo and Sinkin.

In the following year a Subdivisional Officer (Mr. Cloney) was posted to Shwegu, and after Kan Hlaing had been declared an outlaw the Atet-Sinkhan or Kaungtôn township was formed to administer the tract thus taken over on the 1st December 1887. With the addition of a Subdivisional Officer at Bhamo the district staff remained unaltered till 1896, when, on the death of the Sinkin Myoôk, Maung Kyi, K.S.M., the township was absorbed in the Bhamo Myoôk's charge. In August 1897 the hill portion of the Bhamo subdivision was made a separate charge under the care of the Assistant Superintendent. In the same year the Kaungtôn township was abolished, its area being absorbed in the Shwegu township. Both townships became conterminous with the subdivisions of the same name, and for some years the appointments have been combined in one officer

Until recently, a special officer was deputed during the cold weather to tour in the hill-tracts of the Shwegu subdivision, but this system has been abolished. The district is therefore subdivided into three administrative charges, the Bhamo and Shwegu subdivisions, with townships corresponding, and the Bhamo Hill Tracts under the Assistant Superintendent. The latter are administered under the Kachin Hill Tracts Regulation, 1895, as also are the hill-tracts of the Shwegu subdivision. For convenience of administration the hills have been divided into five tracts, each of which is supervised by a *taungôk* with the powers of a headman over the villages of the tract. The *taungôk* disposes of petty cases, collects tribute and maintains order with the help of a few village police. The Subdivisional and Township Officers in the plains deal direct with the headmen of villages except in certain backward tracts where the headmen are for the most part illiterate and the villages scattered. These are supervised by *kayaingôks*, who exercise a sort of general control, are paid a regular salary and are invested with magisterial powers. There are four such officials with the following charges :—Taping (Myothit), Molè (Theinlôn), Atet-Sinkan (Sikaw) and Mohnyin (Thinbawin). A fifth *kayaingôk* with similar functions, but without magisterial powers, looks after the Shan villages of the Namwan Assigned Tracts, leased by China in perpetuity under the Agreement of 1897. All the headmen draw the commission of ten per cent. allowed on their collections of revenue, and their authority in village matters is not affected by the existence of *kayaingôks*. Small cases of a civil or criminal nature are dealt with by the headman who is the direct representative of the village with the officers of Government.

Staff at Head-quarters. Besides the Subdivisional Officer, two Myoôks or Extra Assistant Commissioners are stationed at Bhamo in charge of the Treasury and Revenue Departments respectively. The former is also Registering Officer and both exercise magisterial powers. Since the introduction of the system of direct supervision over the arrangements for the vend of opium a Superintendent with a staff of Inspectors, Sub-Inspectors and Resident Excise Officers have been employed to suppress the smuggling for which the district was long notorious. The Forest, Public Works and Police Departments are administered by a Deputy Conservator, an Executive Engineer and Superintendent respectively, and the Battalion Commandant with three Assistants is in command of a Military Police Battalion, which provides garrisons for all the frontier posts and guards and escorts for civil

purposes. The Civil Surgeon is also Vice-President of the Municipal Committee and Superintendent of the Jail.

The Deputy Commissioner is District Magistrate and exercises the powers of a Sessions Judge in hill cases under the Kachin Hill Tribes Regulation.

Judicial Administration: Criminal.

Appeals in criminal cases lie to the District Magistrate except from the decisions of first class Magistrates. The Subdivisional Officer, the Treasury Officer and the *Akunwun* exercise criminal powers, and there is also a Cantonment Magistrate. All cases except those punishable with death are triable by the District Magistrate, and it has not been necessary for some years for a sessions to be held at Bhamo. The Assistant Superintendent, Sinlumkaba, is regularly empowered, and the District Superintendent of Police and the Battalion Commandant are Magistrates of the first class for special purposes.

Civil Justice.

The Subdivisional Officers, Bhamo and Shwegu, are Judges both of the Subdivisional and Township Courts, and the *Akunwun* and the Assistant Superintendent, Sinlumkaba, are additional Judges of the Bhamo Township Court. The Township Courts have jurisdiction in suits up to the value of Rs. 500, and the Subdivisional Courts up to Rs 3,000. Appeals from both lie to the District Court, which has jurisdiction in original suits without pecuniary limit.

A second appeal lies from the District Court in some cases. Appeals from original and appellate decrees of the District Court lie to the Judicial Commissioner. In the Kachin Hills headmen are by law empowered to decide civil suits without restriction as to money value, between persons under their own jurisdiction. The Assistant Superintendent, Sinlumkaba, and the Subdivisional Officer, Shwegu, decide other hill cases in which the parties belong to different tribes or where only one party is a Kachin. Their orders are subject to revision by the Deputy Commissioner, but there is no appeal.

Litigation.

The volume of litigation in this district has always been small, and the yearly variations have little significance. Of recent years there has been a slight upward tendency in the value of suits instituted, but a single valuable case has a disproportionate effect on small figures, and for the most part litigation is confined to the towns and is concerned with petty cases for the recovery of money. In the fourteen years 1891 to 1904, the average number of civil suits in the District, Subdivisional and Township Courts was 347 and 234 respectively, and the average value in the two latter Courts was Rs. 426 and Rs. 62 respectively.

Crime. The first years of British occupation were marked by a series of murders, dacoities and robberies, for the most part committed by Kachins or by Kan Hlaing's adherents, and as late as 1891 twenty-three persons were convicted for capital offences and thirty-seven for robberies and dacoities. Many more went unpunished. In the late eighties and early nineties there were a number of savage murders and serious dacoities, but since the pacification of the district few cases of importance have occurred. In 1894 a rebellion organised in favour of a spurious *mintha* was detected before it became active, and the ringleaders, who were sentenced to long terms of imprisonment, earned an addition thereto by breaking out of jail and nearly murdering a jailor. The rains of 1895 were characterised by a series of brutal murders in Bhamo town. As the administration of the district extended, these forms of violent crime decreased, but the depredations of Kachins on the low-land cattle continued to be frequent until the establishment of the Assistant Superintendent at Sinlumkaba. Since that date serious crime has been rare, and the bulk of the criminal work of the Courts is concerned with offences against the Opium and Excise laws.

Trans-frontier cases. For many years before the demarcation of the Burma-China boundary criminals found a convenient shelter in the Namkhan valley and elsewhere near the border. The Chinese authorities were suspicious and difficult of access, and the district was kept in a constant state of unrest owing to the unsettled condition of the frontier. Until the open season of 1890-91 raids and murders were of such common occurrence as to render detailed mention impossible. A column operating from December 1890 till May 1891 inflicted salutary punishment for past offences, and during the following years regular expeditions gradually reduced the Kachins to order. In 1891-92 formal communications were opened with the Möngmao *Sawbwa* with reference to the harbouring of outlaws in Chinese territory, but the *Sawbwa* refused to meet the British officers and no redress was obtained. In the following year the Chinese authorities were informed of the proposed movements of the columns and a proclamation was issued by the Santa *Sawbwa* with the ostensible object of keeping the border tribes quiet. In 1893 the establishment of the Namkham post began to have effect and several important outlaws who had made their headquarters in Chinese territory were killed or captured by loyal Kachins, but no assistance was yet received from the Chinese authorities. In 1894-95 a meeting was arranged between the Deputy Commissioner and the *Wun* of Momein (Têngyüeh),

but the negotiations were infructuous so far as border cases were concerned, and it was not till the following year that direct negotiation with the Chinese officials produced satisfactory results. Joint meetings continued to be held in the following years and the less important cases were settled in consultation with the frontier *Sawbwas*. Meanwhile the convention of 1894 had provided for the establishment of a Consulate at Têngyüeh.

Provision was made for the demarcation of the frontier, the general definition of which was modified by the Agreement of 1897 in favour of Great Britain. The labours of the Joint Commission and the efforts of the British Consul have much simplified the settlement of transfrontier cases. In 1901 a large indemnity was paid by the Chinese officials in settlement of all outstanding cases. Serious raids are now of rare occurrence, and the offences with which the frontier officials have to deal at the annual meetings are for the most part cattle-thefts committed by the undisciplined Kachins inhabiting the hilly portions of the Chinese-Shan States.

Public Works.

At the annexation the administration was carried on under conditions both inconvenient and unhealthy. The garrison and the Civil Officers were housed as well as circumstances permitted within the old stockade. There was no proper District Court-house until 1889, nor a suitable residence for the Deputy Commissioner till four years later. After three years of constant sickness attributable to their cramped and inadequate quarters, a part of the garrison was in 1888 pushed out to Fort A on the north, since enlarged and occupied by the Military Police. Shortly afterwards accommodation was provided for the rest of the garrison in Fort C, built in 1888 and 1889 at a cost of nearly five lakhs of rupees, Ordnance buildings and officers' quarters being added in 1889 and the following year. The central police-station was erected in 1889 and the south outpost in the following year. No proper jail was available till 1893-94, when the existing buildings were erected at a cost of Rs. 90,000. Accommodation was provided for the various officers at headquarters by the end of 1898. Meanwhile the Post and Telegraph offices had been completed in 1889 and 1891 respectively, and the Public Works office in 1890. A new cemetery was laid out in 1889, and new Court-houses were provided at Shwegu and Sinlumkaba in 1899 and 1904. Quarters have also been provided at these stations for the Civil Officers. Following the delimitation of the international boundary Military Police posts were erected between 1901

and 1908 at convenient points on the frontier at a cost, approximately, of three lakhs of rupees.

Opium shops were erected at Bhamo and Shwegu in 1904, and Customs buildings were built at Bhamo in 1905 to deal with the system of rebate on goods in transit to China. The Kachin school at Sinlumkaba was built in the following year.

Registration of documents. The registration of documents affecting immoveable property is compulsory in the towns of Bhamo and Shwegu. Elsewhere it is optional. In the former town the Subdivisional Officer and the Treasury Officer are joint Registering Officers, and in Shwegu the Subdivisional Officer is in charge of the office. The documents for the most part concern sales and mortgages of house-sites. The Deputy Commissioner supervises the work.

Civil Police. In Burmese times there was no regularly organised police-force. In Bhamo the Governor depended for the maintenance of order upon his armed followers, who were also required to defend the stockade against the hourly expected attacks of Kachins. Such was the terror which the hillmen inspired, that trading parties in search of salt were not permitted to enter the town but camped outside the gates, which were always closed immediately after sunset.* The Chinese community were expected to police their own quarter. Outside Bhamo the *kayaingôks* and *myothugyis* were charged with the maintenance of order within their jurisdictions. A force of fifty Panthay soldiers was stationed at Mannaung, half-way between Bhamo and Myothit. They received no pay from either the Chinese or Burmese Government, but were maintained by the Chinese traders, who paid for their services as escort into Yünnan. After the annexation it was proposed to subsidise this force, and even after the establishment of a District Police-force twenty Chinamen with two sergeants were employed under the Superintendent for the protection of traders in Bhamo and on the road. The district force was first enrolled in October 1887 and consisted of the District Superintendent, two head constables, four sergeants and seventy-eight constables, of whom eleven were mounted. A lock-up for under-trials and short-term prisoners was established in the following year, and a defensible police-station was built in 1889, with an outpost (built 1890) at the south end of the town. Various modifications have been made in the strength and constitution of the force

* Anderson, pages 216 and 222.

in the course of time, and the staff sanctioned on the reorganisation of 1907 was—

1 District Superintendent of Police.	10 Sub-Inspectors.
3 Inspectors.	14 Head Constables.
	135 Constables.

This does not include the irregular or village police, forty-nine of whom are employed in parties of four or five to maintain communications with the distant parts of the district, to collect information and arrest offenders. Guards at the Bhamo and Shwegu Police-stations are provided by the Military Police, who also provide treasure escorts. There are regular Civil Police patrols in the towns and periodical visits are paid by beat constables to outlying villages. The greater part of the Civil Police are armed. A number of natives of India are employed in Bhamo, but the bulk of the force consists of Shan-Burmans and Kachins.

Military Police. The Mogaung levy was the first Military Police-force employed in the district. It consisted of a British Officer and 500 men, and was raised under orders dated 8th March 1886. The force was rapidly strengthened by the enlistment of "Military District Police" which were at first under the command of the District Superintendent of Police, but the system did not work well and, in January 1887, sanction was obtained to the amalgamation of these forces and two Military Officers were appointed to the District Battalion. On the 1st January 1888 the Bhamo Battalion consisted of 18 native officers and 883 non-commissioned officers and sepoys. The battalion occupied six posts in 1887 and a moveable column of seventy-five men was organised. The headquarters of the Battalion were, however, at Mogaung, and for some years after the annexation the regular Military garrison of Bhamo carried out all the local operations which were undertaken.

It was not till March 1892 that a separate battalion was formed at Bhamo, with a strength of nine companies. In 1896 the Katha Battalion was absorbed, raising the strength of the Bhamo Battalion to fifteen companies. By 1897 it had been reduced to eleven, but in that year a notable departure was made by the enlistment of a company of Kachins, a second being raised three years later. In 1892 four outposts, Nampaung, Thayetta, Sikaw and Shwegu, were occupied by Military Police. The number and strength of these outposts varied from year to year as administrative necessities required, but in 1900 the delimitation of the Chinese boundary brought the distribution of the battalion into

something like its present form. In 1908 the following posts were occupied:—

	Men.		Men.
Tunhong ...	50	Panghkam ...	75
Alawpum ...	75	Shwegu ...	25
Sinlumkaba ...	50	Nalôn ...	50
Lweje ...	75	Loilaw (Signalling	
Warabum ...	75	Station) ...	15

The strength of the Battalion is now 1,249, all told, with six British and thirty-three native officers. The most important engagements in which the Military Police have been concerned were at Tonkan in 1892, where Lieutenant Nelson was wounded, Namkham, where a Subadar and two men gained the Order of Merit and Lieutenant Williams was killed, the relief of Sima in 1893 and the Pansè affair in the following year. The Kachins came under fire for the first time in March 1898, when a stockade at Sadôn was cleared with great success.*

Military Garrison.

Bhamo was occupied by the Second Brigade under Brigadier-General F. B. Norman, C.B., on the 28th December 1885. On the 1st May 1886 the garrison, including the posts at Katha and Mansi, comprised detachments of the Royal Welsh Fusiliers, the 26th Punjab Infantry and the 25th Madras Infantry, some 970 men in all, with Artillery, including the Hazara Mountain Battery, and Sappers and Miners. Brigadier-General Cox succeeded to the command in 1886, and was himself succeeded by Colonel Little. By 1889 the garrison had been increased to over 1,200 men with a Mountain Battery, and the columns which explored the hills during the following three years (*see* Chapter II) were for the most part furnished by the Bhamo garrison. In 1892-93 the Military Police manned most of the columns, and the operations at Sima and Namkhan early in 1893 were the last military operations in the district.†

From that time the regular garrison was reduced and, as now, for some years consisted of three companies of British and a regiment of native troops with a Mountain Battery.

Cantonment and Fort.

After a period of great sickness among the troops, Sir F. Roberts visited Bhamo in 1887 and selected sites for three forts, of which Fort A to the north is now occupied by the Military Police and Fort B to the east has been abandoned. Fort C was to be the main entrenched position. The boundaries of the Cantonment were agreed on about the same time and have only been slightly modified since.

* History of the Bhamo Battalion (MS.). † Kachin Gazetteer.

CHAPTER X.

REVENUE ADMINISTRATION.

The *thathameda*, or house tax, was the chief source of revenue in Burmese times. The rate was Rs. 10 per household, and an arbitrary exemption of ten per cent. was made on account of poor persons and others. Although *thathameda* was originally a tax on cultivation as well as on other sources of income, it was supplemented by an impost on paddy lands, calculated on the number of buffaloes employed. The proceeds of this tax in the Bhamo township were, in the years immediately before the annexation, appropriated to the use of one of the Queens in Mandalay. Payment was made in kind, and the amount recorded as sent from Bhamo and Shwegu to the Royal granaries was 5,000 and 14,000 baskets respectively. In 1869 the four *Myos* of Shwegu, Mohnyin, Kaungtôn and Bhamo were assessed to between Rs. 45,000 and Rs. 46,000. In 1884-85 the number of houses was found to be 4,263, which, with exemptions, would produce a considerably smaller sum, one of the results of the anarchy which followed Thibaw's accession. A tax was also levied on fisheries and there were various imposts, direct and indirect, on trade passing through Bhamo. Five per cent. *ad valorem* was charged on imports, and a tax of twelve annas was levied on each beast of burden carrying exports, while boats were taxed from eight annas to two rupees according to their capacity. The amount received annually as "Bhamo customs duty" under the Burmese *régime* is recorded as Rs. 13,000. In Burmese times.

The Kaukkwè forests were leased at the time of the annexation and the lessees continued to work them under British rule. The total revenue of the district in 1885 may be estimated at Rs. 80,000.

The unit of administration in Burmese times, as now, was the *ywathugyi* or village headman. He was directly responsible for the collection of the revenue outside Bhamo town and paid it to the *myothugyi*, unless the tax was farmed, which was not uncommon. If the *ywathugyis* paid the collections to the *myothugyis* the latter took ten per cent. commission, paying their subordinates a small proportion thereof. The *Wundauk* at Bhamo was responsible for the remittance of the revenue to Mandalay. He had under him *nakans* or subordinate revenue officials. It is to be understood that though there was nominally a regular rate of

revenue assessed the actual rate paid varied according to the demands made by the Royal treasury, and there was of course a great deal of leakage. The original demand for paddy tax on the Shwegu *myothugyi*ship was Rs. 10,000 until a candidate for the post offered the King Rs. 15,000.*

Revenue administration under British rule.

After the annexation an attempt was made to administer the revenue through the medium of the *myothugyis*, but they were found to be unreliable, and though no change was at first made in the methods of assessment, these officials were replaced by Myoôks, whose general supervision over their townships included the duty of watching the assessment and collection of the revenue. There were at first three such townships, Bhamo, Sinkin and Shwegu, and a fourth (Kaungtôn) was added in 1887. The distribution and grouping of townships has been altered and there are now only two in the district, but the system remains unchanged. It is the duty of the headman to prepare the *thathameda* assessment-rolls of his village, but as a large majority of them are illiterate it has been found necessary to appoint a number of paid officials styled *kayaingôks*, who exercise a general supervision over their circles and are responsible for the preparation of the rolls. The roll is checked by the Township Officer and by the Deputy Commissioner, and a copy of the sanctioned demand is returned to the headman for collection. The normal rate of *thathameda* is Rs. 10 per household, but certain remote villages pay a Rs. 5 rate, and Kachins, who have immigrated to the plains, pay only Rs. 2-8-0. Exemptions are given for various reasons, and the demand for the village is the net number of assessed houses multiplied by the rate. The total demand is then distributed amongst the residents by the headman assisted by his assessors, and the headman receives a commission of ten per cent. on the total.

Land revenue assessments.

Similar methods are adopted with respect to the assessment of land revenue, but a considerable portion of the district has now been surveyed and assessed to an acre rate; the assessment-rolls for these areas are prepared by the surveyor. In the remainder of the district the outturn of each holding is estimated and one-tenth of the produce is the share of Government, commuted into money at the average market rate of the last five years. Only matured crops are assessed and the necessity for remission rarely arises. The proportion of the crop assessed as land

* Diary of Deputy Commissioner, 1886.

revenue was originally based on a calculation of the share actually paid by the cultivator under Burmese administration, and although, owing to the arbitrary methods adopted under that *régime*, the data were not very trustworthy, the calculation was sufficiently accurate and the cultivator is no longer liable to sudden and unexpected enhancements. The acre rate on surveyed land is fixed at Re. 1-8-0 an acre, but a lower rate was for some years in force in the Sinkan valley, which suffered severely during the early years of British occupation.

Tenures.

In accordance with the policy adopted elsewhere in Upper Burma the rates assessed on *non-State* land were pitched somewhat lower than those levied on State land. The former is assessed at Re. 1-2-0 per acre, if surveyed, or at 7½ per cent. of the outturn. The distinction affects a very small area in this district as very few private claims were made or admitted. The great bulk of culturable land is, in fact, *ywabônle*, or communal land, and the incidents of this form of tenure are incompatible with private rights. The village lands are in a sense the property of the village as a whole, and rights of occupation are confined to residents and effective cultivators. If the cultivator removes elsewhere he loses all claim to his holding; he cannot sell or mortgage it but must hand it over to the headman, who allots it to another resident. Even tenancies are discouraged except for very short terms. This form of tenure, the vitality of which has been somewhat weakened by the neglect of Government formally to recognise it and more by the issue of leases which are incompatible with it, is well suited to a backward district and steps have been taken to revive it.

Tribute in the Kachin Hills.

Tribute at the rate of Rs. 2-8-0 a house is collected from the Kachins in the hills. The assessment and collection are made by the Assistant Superintendent with the assistance of the *taungôks*. The tax is little more than an acknowledgment of sovereignty, but the Kachins are very poor and could not afford any considerable enhancement. They pay no land revenue. The Shan villages in the Assigned Tract pay a *thathameda* rate of Rs. 5 per household, which is collected by a *kayaingôk* resident at Panghkam. They pay no land revenue, though their crops are the best and most certain in the district.

Town lands.

Persons found in possession of house-sites in Bhamo at the annexation were given certificates to this effect, and pending the determination of titles to town lands in Upper Burma no rent has been levied. Vacant sites have been

leased, generally for thirty years, with an option of renewal, at rates varying with the relative value of the land, from half an anna to four annas per 100 square feet. These town land rents are a Provincial receipt, but up to the present a grant in lieu thereof has been made by Government to the Municipal Committee of Bhamo. Vacant land is also leased at nominal rents in Shwegu. It may be noted that the *ywabôn* or communal tenure was found in existence in the earlier years of our occupation in outlying villages of the district as applying not merely to cultivated land but also to house-plots within villages, only permanent residents being entitled to hold a plot and they losing their rights thereto if they emigrated elsewhere.

The auction system: Excise and Fisheries.

Fishery leases and Excise licenses are sold by auction, with the exception of a few of the latter for which there is a fixed fee. Due notice is given beforehand of the dates. Undesirable bidders are excluded, and in the absence of special reasons to the contrary the highest bid is accepted subject to the payment of earnest-money and the provision of security.

Growth of revenue.

As mentioned above, the land revenue of Bhamo (township) in Burmese times was 3,000 baskets of paddy, and that of Shwegu 14,000 baskets. After the annexation the land revenue was at first collected in the customary manner by the *myothugyis*. *Thathameda* probably produced in 1884-85 under Rs. 40,000. From the first little difficulty was experienced in the collection of the taxes.* Ten years after the Annexation *thathameda* and tribute amounted together to more than the sum (Rs. 80,000) which has been estimated as the revenue of the district in Burmese times, and in 1907-08 the collections were Rs. 1,15,000. The increase has been almost continuous year by year. Collections of land revenue have also increased steadily, the only set-back occurring in the year 1900-01, when there was a poor harvest. Between 1895 and 1908 the land revenue nearly doubled, and in the latter year reached nearly Rs. 30,000. Taking Rs. 75 as the normal harvest price this represents 40,000 baskets of paddy as the share of Government under an equitable and well-understood system of assessment, as against the 19,000 baskets exacted from the down-trodden cultivator in Burmese time.

Owing chiefly to the vagaries of the Irrawaddy, fisheries have been a less constant source of revenue. They produced Rs. 17,217 the year after the establishment of the new Myitkyina district, but in the following year an unexpected

* Diary of Deputy Commissioner, 1886-87.

rise of the river burst the weirs of the richer fisheries and Rs. 5,000 were remitted. The recovery of the industry was further retarded in 1899-1900 when the weir erected at the Indawgyi fishery by the Public Works Department collapsed, and recovery was not complete till 1901-02, when the revenue was Rs. 22,292. The receipts steadily increased to Rs. 32,579 in the following three years, fell in the next year by over Rs. 8,000 in consequence of the restrictions imposed with a view to the preservation of immature fish, and are still affected (Rs. 26,717 in 1907-08) from the same cause.

Miscellaneous land revenue fell from Rs. 87,000 to Rs. 24,000 on the subdivision of the district, but these figures included fishery revenue, and since 1900-01 the collections of miscellaneous revenue have been trifling.

Opium and Excise.

Until 1904 the monopoly of the retail vend of opium was sold by auction, the maximum quantity which might be sold being fixed beforehand. In 1902 this system was abandoned in Lower Burma, and from the 1st April 1904 it was replaced in Upper Burma by that which had already been found to work with success in the Lower Province. The licenses are allotted to selected vendors at a fixed fee, and the profits are determined by the difference between the wholesale rate at which opium is issued from the Treasury and the retail price at which the vendor is required to sell to consumers. At each shop is stationed a Resident Excise Officer, who supervises the sales and sees to the disposal of the surplus opium every evening. Very large sums were paid for the monopoly under the old system, and in 1896-97 excise receipts, including opium, exceeded Rs. 50,000. The system made it impossible to deal effectually with smuggled opium, which it was to the vendor's interest to obtain because it was cheaper, and the uncertainty of the profits caused very large variations in the bids at auction. Excise receipts fell below Rs. 12,000 in 1902-03 and in the following year—the last of the old system—were Rs. 15,694. In 1904-05 the revenue was Rs. 21,244 and the expenditure Rs. 22,886, the new system entailing the entertainment of a preventive establishment and the opening of a new opium shop at Shwegu. The receipts are growing steadily but do not yet cover expenditure.

Liquor licenses are still sold by auction and the receipts do not vary a great deal from year to year.

Stamp revenue

Stamp revenue produced Rs. 7,797 in 1893-94 and the same amount ten years later. It is not likely to increase to any great extent in the near future.

Revenue staff.

For some years after the Annexation the Deputy Commissioner was without the assistance of an *Akunwun* or officer in special charge of the revenue. The *Akunwun* has his own office establishment, watches the collections of revenue and corresponds direct with Subdivisional Officers in matters concerning his department. Each Subdivisional Officer is in charge of the revenue of the subdivision, and the actual collectors of the revenue are for the most part the village headmen. A special officer is appointed at headquarters to check evasions of the stamp laws.

CHAPTER XI.

LOCAL SELF-GOVERNMENT.

Bhamo Municipality.

Bhamo is the only Municipal town in the district. It was constituted under the Upper Burma Municipal Regulation in 1888 and reconstituted under the Burma Municipal Act in 1906. The Municipality covers an area of 2·27 square miles and lies between the cantonment, the Namsiri *chaung* and the Irrawaddy, with a demarcated boundary on the north.

Constitution of Committee.

The Committee consists of five *ex-officio* members and five non-officials nominated by the Commissioner; of the latter one is a European, three are Burmans and one is a Chinaman. The Executive Engineer is expert adviser to the Committee, of which he is a member. Small works are carried out by the Secretary and Overseer.

Income.

Government gives grants of Rs. 1,800 towards the hospital, Rs. 3,000 for jungle-clearing and Rs. 1,750 in lieu of town land rents. The cost of combating epidemics of plague has also been met by Government. The main sources of Municipal income are the market, slaughter-house and the caravansarais erected for the accommodation of Kachin, Shan and Chinese traders. The collection of fees is farmed and half the sum received for grazing fees is paid to the Cantonment fund. Municipal rates and taxes produce under Rs. 5,000 a year. These take the form of a percentage of the Government *thathameda* tax, supplemented by a street frontage tax on those who are exempt from *thathameda*. A conservancy rate is levied from those who employ the night conservancy staff. The incidence of taxation is under nine annas per head of population. Hackney carriages and carts are licensed, and the fees, together with receipts from

pounds and fines in certain cases, bring the income of the Committee up to about Rs. 36,000.

Expenditure. In view of the poverty of the fund, the Committee has been relieved of the charge of metalled roads within the Municipal area. The upkeep of the hospital cost Rs. 6,500 in 1907-08, conservancy accounted for nearly Rs. 11,000 and the cost of lighting the streets amounted to Rs. 4,200. The cost of administration was Rs. 4,400. The resources of the Committee leave no margin for public works. There is no water-supply except wells, twenty of which are maintained at a small annual cost ; only a small portion of the town is provided with masonry drains and the conservancy tax does not cover expenditure. Public latrines have been erected here and there in the town.

Hospital. Twelve thousand and five hundred out-patients and 800 in-patients were treated at the General Hospital in 1907-08. The extension and improvement of the building have been sanctioned. A subscription fund provides extra diets for patients, and the hospital is well attended and popular.

CHAPTER XII.

EDUCATION.

In Burmese times. At the Annexation education was almost entirely confined to the monasteries, and the instruction imparted was almost exclusively religious. There were, however, three lay schools in the district where boys were taught the four rules of arithmetic under the *Bedin* system. The text-books (Mingalathôk, Payeikkyi, Lawkanadi, etc.) were inscribed on palm leaves ; boards were used as slates and the lessons learned by rote. A knowledge of grammar was confined to the very few, and its attainment was the labour of years. The American Baptist Mission began its labours in 1879, but its work lay first among the Kachins, for whom a boarding-school was opened in 1882.

Indinegous schools at present time. At the present day there are thirty indigenous Burmese schools, of which seven are monastic. The schools in Shwegu teach pupils up to the VIIth Standard, but the remainder do not aspire beyond the Primary stage and many villages are without lay schools for want of teachers. Most villages, however, have a monastery where simple instruction in secular subjects is imparted on a system which does not commend itself to the Educational author-

ities, and two of the monastic schools which have been officially recognized are graded as secondary though they have not yet turned out pupils in the VIIth Standard.

Primary schools.

In pursuance of the educational policy of Government five primary schools have been started, with buildings and temporary salary-grants. There are ten private Kachin schools in the district under the auspices of the American Baptist Mission.

Secondary education.

There are two Government Vernacular Middle schools, one of which is in Bhamo town. There is also a Secondary Anglo-Vernacular school for young Chinamen. English, Burmese and Chinese are taught with the object of fitting the boys for employment as clerks and interpreters. It receives but little support from the local gentry and a modification of its status is under consideration.*

The American Baptist Mission has an Anglo-Vernacular Shan school in Bhamo. It was inaugurated in 1892, has a strong staff partly supported by a Government grant, and teaches efficiently in both Primary and Secondary grades. The Kachin school under the same mission also teaches up to the VIIth Standard and has about 100 pupils, with six assistant teachers, four of whom are paid half-salary grants by Government.

Girls' schools.

There are three girls' schools, one of which, in Bhamo town, is superintended by a nun. The attendance is poor and female education is very backward. Girls are also taught in the A.B.M. schools by the ladies of the mission.

Kachin education.

Missionary enterprise in the Kachin Hills was followed in 1906 by the opening of a Government Middle school at Sinlumkaba. This has been a conspicuous success and the available accommodation (about thirty) is already fully taken up. It is also attended by Kachin sepoys of the Military Police. There are also five A.B.M. Kachin schools in the hills, with an average attendance of ten boys and others for Kachins in the plains. These schools receive Government aid and ambitious pupils pass on to the secondary school at headquarters, where a system of transliteration with the English character is used.

Legend explaining the illiteracy of the Kachin.

All these schools are doing admirable work and the legendary illiteracy of the Kachin will soon be a thing of the past.

Ning Nawn Wa summoned all the races of the world to the distribution of letters. The Kachins were given theirs on the hide of a buffalo, but being hard pressed for food on

* Since abolished.

the return journey cooked and ate the hide, thus satisfying their appetite at the expense of their culture.

Their traditional poverty is explained by another equally ingenious legend.* Tokens take the place of letters and the meaning of some of these is explained by Mr. Hertz in his Kachin Hand-book.†

CHAPTER XIII.

PUBLIC HEALTH.

In pre-Annexation days it would seem that the principal diseases that affected the people were small-pox, ophthalmia and ulcers.‡ The ravages of small-pox were terrible, and Doctor Anderson instances several cases of total blindness caused by it.§ Malarial fever was then, as now, prevalent during the rains, and various forms of skin disease, especially eczema, were common. Syphilis was almost unknown, and there was almost complete freedom from chest complaints. Goitre was confined to the hill-people, was considered to be hereditary and to be caused by the quality of the water of the mountain streams. **In Burmese times.**

Since the Annexation the progress of vaccination, assisted by the scattered nature of the population, has gone far towards preventing any serious outbreak of small-pox. The people are on the whole not averse to vaccination and, when the disease appears, are eager for protection. In 1903 thirty-seven cases occurred in three villages, with eleven deaths, but 250 unprotected children were promptly vaccinated and the disease died out. Two years later it broke out again amongst the Kachins as the result of inoculation practised on children, but there were no deaths and vaccination was readily undergone. In Bhamo town all unprotected children are vaccinated, and two Burman operators work systematically in the jungle villages and another (since 1908) in the Kachin Hills. In 1897 there were 804 primary and 118 revaccinations. In 1902 the numbers had arisen to 2,625 and 213, and five years later to 3,242 and 188. The unreasoning terror of plague has since reduced the figures. **Small-pox and vaccination.**

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* Hertz, pages 52 and 53.
† Page 149.
‡ Anderson, page 227.
§ *Ibid.*

Cholera. The first recorded outbreak of cholera occurred in 1892, when twelve cases were reported in Bhamo town. There was a small epidemic in 1899, and nothing serious occurred till 1904, when there were 305 seizures and 236 deaths in Bhamo and other riverine villages, the disease having been introduced from Katha. Two years later it was brought into the district from Mandalay, the riverine villages, especially Shwegu, were badly infected, and 75 per cent. of the cases (86) ended fatally. The spread of the disease has always been attributable to the contamination of the water-supply. In the riverside villages wells are almost unknown and, where they exist, are unprotected. In the rains many of these villages are flooded by the river and a large proportion of the population live on rafts. Bhamo town probably owes its comparative immunity of recent years to the protection of its wells and to its situation (for the most part) above flood-level.

Plague. The district escaped infection from plague until 1907, when Mandalay being seriously attacked all arrivals from down river were inspected before landing. Four cases were thus detected and the patients isolated. Two of them recovered and the disease got no hold on the town. On the 27th June 1908, however, an indigenous case was discovered in the Chinese quarter, and in three months there were 43 attacks and 34 deaths. At the first sign of the disease the wealthier Chinamen stampeded, and eventually the whole quarter was evacuated and disinfected. Trade was almost at a standstill until the plague abated, and before the end there were cases in every quarter of the town. Segregation was abandoned as soon as the disease was thoroughly established. The structural defects of the older houses in China street constitute a serious danger to the town and plague again broke out in that quarter in 1909. It has not so far obtained any foothold in the district and there is evidence that the later attacks are less virulent in their character than the first cases. The people acquiesced readily in the usual precautions and have shown an appreciation of the advantages of light and cleanliness in their houses.

Hospital. The Bhamo Civil Hospital was built in 1892 at a cost of Rs. 8,000, and is maintained at the cost of the Municipal Committee with the aid of a grant from Government. Its enlargement is under consideration. It has accommodation for 37 in-patients and treats about 700 patients annually. The out-door attendance, which amounted to 6,316 in 1892, had risen steadily to 12,000 in 1906, after which the terror

of plague caused a falling off. There were 60 operations in 1892 and 250 in 1907.

A new hospital was built at Shwegu in 1908 at a cost of Rs. 21,490 and accommodates thirteen beds. Each Military Police post has its own hospital, and the assistants in charge have been able to induce a few of the hill-people and the Shans of the Namwan and Shweli valleys to attend for treatment. It is now proposed to open small Civil Dispensaries at Sinlum, Lweje and Panghkam, which are certain to achieve popularity. The Station Hospital in Fort C was built in 1888 for 44 beds and cost Rs. 65,000.

Efforts are made to check the prevalence of malaria by the distribution of quinine in the jungle villages, but in Bhamo town alone 3,000 cases are treated annually in the Civil Hospital. Bowel complaints resulting from inferior food or bad water are also common, and rheumatism provides many patients in the rains. Tubercular complaints are comparatively rare, but diseases of the eye are still terribly common, especially amongst children. Ulcers occur very frequently in the cultivating class and are neglected until the last moment. Principal diseases.

Skin diseases are the natural result of the want of cleanliness among the Kachins. Goitre, which has been mentioned as common in the hills, chiefly attacks women, and the nature of its origin is still in doubt. The carrying of heavy loads on the head is now put forward as a possible cause of this hideous complaint. Several cases have been cured by operations. Another complaint peculiar to the district which frequently cripples Europeans working in the forests is mud sores. They have been attributed to the bite of an insect and are extremely persistent.

The conservancy of Bhamo town is in the hands of the Municipal Committee, and gangs are maintained for day and night service. There are twenty public latrines. The wells have been lined with masonry and covered in, and they provide a very good supply of water throughout the year. Outside Bhamo there is no organised system, but villagers are expected to keep their compounds and the village roads and wells (if any) in a sanitary condition. In villages which are not liable to flood this expectation is reasonably fulfilled and the ordinary type of Shan-Burman house lends itself to a decent standard of cleanliness. The Chinese-Shans, however, build on mud floors, abhor light and fresh air, and do not object to the close proximity of the domestic pig. Sanitation.

CHAPTER XIV.

MINOR ARTICLES.

Bhamo Town.

The headquarters of the district is Bhamo, or, more correctly, Bhamaw. The derivation of the name is discussed in Chapter I. It is situated in 24°15′ North and 97°15′ East, on the left bank of the Irrawaddy, 687 miles from the sea, and had, in 1901, a population of 10,734, including the cantonment.

Date of foundation.

The age of the present town can only be conjectured. Its establishment as the chief town of the district and the emporium of the Chinese trade dates probably from the middle of the seventeenth century.* The old town of Bhamo was situated on the right bank of the Taping, between Sikaw and Sihet, and was itself the successor of Sanpenago, the ancient capital, about which gather all the legends regarding the foundation of the Shan dynasty. The site of Sanpenago is now occupied by the village of Shwekyina, and a maze of ruined pagodas and the remains of the old wall testify to its former greatness. It is probably Sanpenago which is referred to in Fra Mauro's map as the place where "Goods are transferred from river to river and so pass on to Cathay," though the greater part of the journey would be by land, and Nicolo Conti's journey, which probably supplied the materials for this portion of the famous map, was made in the fifteenth century.† The position of Bhamo in the seventeenth century was almost certainly on the Taping, for the records of Fort St. George refer to the existence of English and Dutch factories at that time,‡ and the site thereof has been found near Myothit and the old capital on that river. Doctor Anderson§ surmises that the migration to the present town occurred about the middle of the seventeenth century when its commercial supremacy was threatened at the end of a century of peace by the rivalry of Kaungtôn, nine miles down the river and favourably situated with regard to the most southerly of the trade-routes to China. It is certain that both Bhamo and Kaungtôn occupied their present positions during the Chinese invasions which took place

* Anderson, page 44.
† Upper Burma Gazetteer, Vol. I, Pt. II, page 70.
‡ Anderson, page 45.
§ *Ibid.*, page 44.

between 1765 and 1770, and both have given their names to the final treaty which was negotiated in December 1769.

Condition of town in Burmese time.

By 1836 Bhamo had evidently ousted Kaungtôn from its position of commercial rivalry. Captain Hannay describes it in that year as the largest place he had seen in Burma after Rangoon and Ava,* and remarks on the prosperity of its inhabitants. Doctor Griffith visited the town in the following year. His account of the town differs widely from that of Captain Hannay. He estimated the population at only 3,000, and describes the town as consisting of only one street of indifferent houses.† In 1868 Doctor Anderson says that there were about 500 houses‡—one-third of the number estimated by Captain Hannay thirty years earlier. Although the figures are not reliable it is clear that the town was declining in size and prosperity for years before the British annexation. The Kachins controlled the trade-routes and terrorised the town, and the authority of the Burmese Government was merely nominal. The town was rushed in 1885 by a handful of Chinese filibusters who were bought off by the authorities. Captain Cooke, the first Deputy Commissioner, who had been Assistant Political Agent before the annexation, writes in 1886: "Bhamo is hardly recognizable as the flourishing town it was some nine years ago. It is ruined and deserted."§ The inhabitants slept on sand-banks and in boats at night prepared for instant flight in case of a Kachin attack, and it took some years of British administration to reduce the hillmen to submission and to restore the prosperity of the town. A British Residency was established in 1869, and the previous prosperity to which Captain Cooke refers was the result of the restoration of Chinese authority in Yünnan after the Panthay rebellion.

Under British rule.

Bhamo was occupied without opposition in December 1885. It was stockaded on the land side, and within the stockade the troops were temporarily and inadequately encamped. There was much sickness in consequence, and the stockade was rushed by a composite force of Chinese, Kachins and Shans on the night of the 14th November 1886. In the following year Sir F. Roberts visited Bhamo and selected sites for barracks. Fort A to the north, now occupied by the Military Police, was the site of the old Residency, while Fort C, the main position, lies to the east of the

* Anderson, page 54.
† *Ibid.*, page 55.
‡ *Ibid.*, page 216.

§ Diary of Deputy Commissioner, 1886.

old town. The stockade became unnecessary and the town began to expand as far as geographical limitations permitted. Bhamo now extends along the river-bank for about four miles, from Fort A nearly to the banks of the Namsiri *chaung*. Only about one and a half miles of the bank are free from the river floods, and on this are situated the main Government buildings and the Burmese and Chinese quarters. The southern quarters of the town, which are mainly occupied by Shans, extend along the bank down to the lower steamer ghât, and are inundated in the rains when the river rises. A high embankment connects Fort C with the Civil offices and bars the northern progress of the river floods. The numerous *nullahs* which intersect the town were for a long time very swampy and malarious. Many of them have now been drained and others have been converted into permanent lakes by the erection of weirs.

The Court-house and Government offices stand on the southern edge of the high ground, with the Post and Telegraph offices and the Civil Hospital. The Chinese quarter occupies the central portion of the Strand road. It is a favourite resort of the casual traveller and contains a very interesting temple. The quaintness of the Chinese architecture and the bright exteriors of the shops go far to redeem the internal squalor of the houses which, on the riverside, overhang the water with a maze of outhouses built of any odd materials and erected on precarious posts. The Government bazaar lies behind the Chinese quarter across a deep *nullah* which is utilised by vegetable gardeners. The bazaar is the centre of the Indian shopkeepers' quarter, and from its gates the main road to China stretches away to the frontier. The road between Fort A, the Civil Lines, the Court-house and Fort C crosses this road at right angles at the point where the old stockade was rushed in 1886 and where now stands the main police-station. There is a police outpost at the southern end of the town and the jail lies at the other end, to the north of Fort A, whence a circular drive connects with the Chinese frontier road near the Shan *waing*. These *waings*, or caravansarais, were built for the accommodation of Chinese, Shan and Kachin traders with their pack-animals visiting Bhamo. A small fee is collected for their use and for grazing rights. The Shwe Zedi " Bell " Pagoda, which lies close to the China road, claims to have been built by Asoka. It enjoys considerable local renown and is the scene of a great annual gathering during the *Thadingyut* festival—the close of the Buddhist Lent. Cemeteries for the various nationalities lie further along the road, and the Sikhs

and Mussulmans have erected substantial places of worship in the town. The affairs of Bhamo are administered by a Municipal Committee, constituted in 1888, details of which will be found in Chapter X.

The subdivision and township are conterminous. The administration of the hills on the east is, however, a separate charge under the care of an Assistant Superintendent. The subdivision comprises the old townships of Bhamo and Sinkin. Its boundaries are as follows, but it must be understood that the hill-tracts enclosed therein are excluded from the jurisdiction of the Subdivisional Officer:— Bhamo Subdivision.

North.—The boundary of the district with Myitkyina.
West.—The watershed between the Irrawaddy and Mosit rivers. Boundaries.

South.—The Irrawaddy to the mouth of the Moyu stream; thence the Moyu stream to the point where it is crossed by the Sawaddi-Mankin road; thence a straight line due south to the Namu stream; thence the Namu stream to the boundary of the Möngmit State, near Pangtang; thence the northern boundary of Möngmit State.

East.—By the Chinese frontier.

The area, including the hill-tracts, is 1,720 square miles, and its population in 1901 was 45,338. The population of that portion which lies in the plains may be estimated at about 25,000. Area and Population.

Fifteen thousand acres only were under cultivation in 1901 and the area increases but slowly. The main crop is paddy and is chiefly confined to the banks of the streams which drain into the Irrawaddy. Land revenue produces about Rs. 16,000, *thathameda* Rs. 70,000, and fisheries Rs. 5,000. Cultivation and Revenue.

Shwegu, the headquarters of the subdivision of that name, lies on the left bank of the Irrawaddy, a few miles below the second defile. It really consists of a series of villages, Shwegu, Myoma, Sainggôn, Mingôn, and Myogôn, and the official town includes Yebyangyi, Maulmyaing and Ywathit. It was the headquarters of a *Myothugyi* in Burmese times whose jurisdiction was known as the "twenty-six villages of Balet" and formed part of Mohlaing State. It contains a Court-house and quarters for the Subdivisional, Forest and Police Officers. A fine new hospital has recently been built, and the schools are above the average of the district. The population in 1901 was 2,493. The town is largely interested in the timber trade which has grown considerably of recent years, and its pottery has some reputation. Shwegu Town.

Kyundaw.

A description of Shwegu is incomplete without a reference to the famous island of pagodas which lies in midstream just north of the town. The Shwebawgyun pagoda is said to have been founded by the Chenhôn *Sawbwa*, to whom, when he was in search of an errant son, there appeared above the island a miraculous light. The island is now entirely covered with pagodas, and a colony of masons is kept occupied in repairing them or building more. The main pagoda is an imposing erection, and there is an interesting group representing Gaudama's body surrounded by weeping women.

Shwegu Subdivision.

The subdivision comprises the old Shwegu and Kaungtôn townships, the latter of which belonged until 1897 to Bhamo. Its boundaries correspond with the southern border of the Myitkyina as far as the Kaukkwè river, thence the Kaukkwé river to its mouth. The subdivisional boundary then corresponds with the border between Bhamo and Möngmit State as far as Panlang village. Thence the Namu stream and a straight line to the point where the Sawaddi-Mankin road is crossed by the Moyu stream. Thence this stream to the Irrawaddy river, which is followed as far as the mouth of the Sinkan. The subdivisional boundary there crosses the river and follows the watershed between the Mosit and the Irrawaddy up to the district boundary with Myitkyina.

Occupations.

Most of the riverine villages support themselves by fishing or timber and bamboo working, but the Kyidawgyi *kayaing* carries good crops of paddy, and the water of the Paungnet *chaung* is utilised to irrigate it. The Kachin tracts form an integral part of the subdivision. The hillmen also are taking to timber work and are becoming Burmanised.

Population and Revenue.

The area of the subdivision, including the hill-tracts, is 2,432 square miles and its population in 1901 was 21,943. The staple crop is paddy, of which nearly half is irrigated. Land revenue produces some Rs. 11,000, *thathameda* Rs. 35,000 and the leased fisheries Rs. 25,000. The Indawgyi, below Shwegu, on the opposite bank, is the largest fishery in the district, and in a successful year brings in a handsome profit to its purchaser. Everything, however, depends on the behaviour of the river, and in two years out of three there is no profit.

List of Deputy Commissioners, Bhamo District.

Name.	Date of assuming charge.	Date of relinquishing charge.
Major Cooke ...	December 1885 ...	October 1886.
Major Adamson ...	October 1886 ...	April 1888.
Mr. G. W. Shaw, I.C.S. ...	April 1888 ...	August 1890.

[NOTE.—Major Butler was in charge of the district for a short period while Mr. Shaw was on special duty in the Kachin Hills, and Lieutenant Eliott held charge for a few weeks in 1889.]

Name.	Date of assuming charge.	Date of relinquishing charge.
Mr. E. C. S. George, C.I.E., I.C.S.	10th Aug. 1890... 29th Oct. 1892 ... 8th Nov. 1894 ...	30th July 1892. 20th August 1894. 10th March 1895.
Mr. J. M. T. George, I.C.S.	30th July 1892 ...	29th Oct. 1892.
Mr. W. H. C. Minns, I.C.S.	20th Aug. 1894 ...	8th Nov. 1894.
Mr. H. P. Todd-Naylor, C.I.E., I.C.S.	1st March 1895 11th Sept. 1896	2nd June 1896. 10th April 1897.
Mr. C. C. T. Chapman ..	2nd June 1896 ...	11th Sept. 1896.
Mr. N. G. Cholmeley, I.C.S.	10th April 1897 October 1900 ... 9th March 1901	30th June 1900. 1st Jan. 1901. 23rd April 1901.
Mr. C. C. T. Chapman ..	30th June 1900 ...	October 1900.
Mr. C. S. Pennell, I.C.S. ...	1st January 1901	9th March 1901.
Mr. J. P. Hardiman, I.C.S.	23rd April 1901 ...	22nd July 1901.
Major J. J. Cronin ...	22nd July 1901 ...	8th July 1902.
Mr. D. W. Rae ...	8th July 1902 ... 1st March 1905 21st April 1906 15th July 1907 ...	18th August 1902. 13th June 1905. 24th Sept. 1906. 30th Oct. 1907.
Mr. H. G. A. Leveson, I.C.S.	19th Aug. 1902 ... 13th June 1905	1st March 1905. 21st April 1906.
Mr. G. W. Dawson, I.C.S.	25th Sept. 1906 30th Oct. 1907 ...	15th July 1907. 1st Nov. 1909.

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(5) Excise.

(6) Municipalities.

INDEX.

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G. B. C. P. O—No. 4, Mis., 17-7-1912—373—A. D. C.